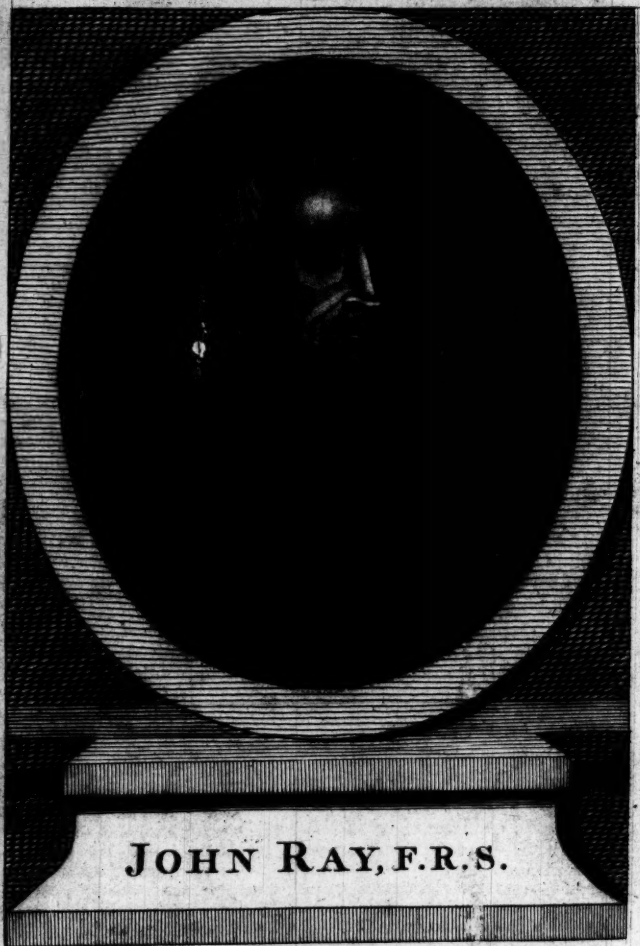

JOHN RAY, F.R.S.

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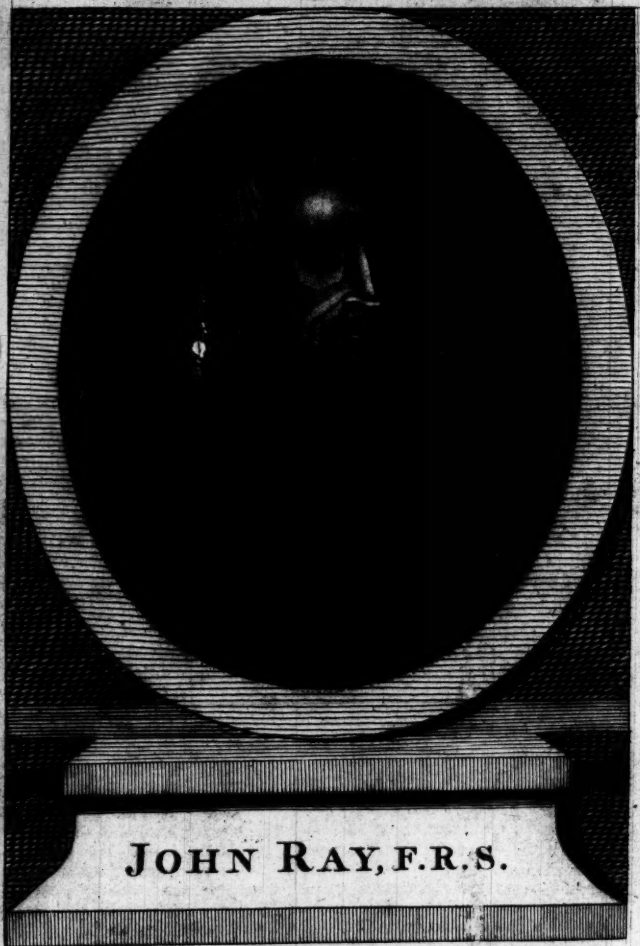

JOHN RAY, F.R.S.

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Miscellaneous Discourses

Concerning the

DISSOLUTION AND CHANGES OF THE WORLD.

WHEREIN

The Primitive *Chaos* and Creation, the General Deluge, Fountains, Formed Stones, Sea-Shells found in the Earth, Subterraneous Trees, Mountains, Earthquakes, *Vulcanoes*, the Universal Conflagration and Future State, are largely Discussed and Examined.

By *JOHN RAY*, Fellow of the *ROYAL SOCIETY.*

LONDON,
Printed for *Samuel Smith*, at the *Prince's Arms* in St. *Paul's* Church Yard. 1692.

TO THE

Most Reverend FATHER in GOD,

JOHN

Lord Arch-Bishop of *Canterbury*, Primate of all *England*, and Metropolitan.

My Lord,

IT *was no Interest or Expectation of mine, that induced me to dedicate this Discourse to your* Grace. *I am not so well*

conceited of my own performances, as to think it merits to be inscribed to so great a Name, much less that I should oblige your Lordship, or indeed a far meaner person by such inscription. My principal motive was, that it would give me opportunity of congratulating with the sober part of this Nation, your advancement to the Archiepiscopal Dignity; and of acknowledging His Majesty's Wisdom in making choice of so fit a Person to fill that Chair, endued with all Qualifications requisite for so high a Calling; so able and skilful a Pilot to govern the Church, and so prudent and faithful a Counsellor to serve himself. But I will not enlarge

in your just praises, lest I should incur the unjust Censure or Suspicion of Flattery: Give me leave only to add, what I may without injury of Truth, and I think also without violation of Modesty; that your Grace's *Election hath the concurrent Approbation and Applause of all good men that know you, or have had a true Character of you; which may serve to strengthen your Hands in the Management and Administration of so difficult a Province, though you need no such Support, as being sufficiently involved and armed by your Vertues, and protected by the Almighty Power and Providence. Those that are Good and Wise are*

pleased and satisfied, when great Men are preferred to great Places; and think it pity that Persons of large and publick Spirits should be confined to narrow Spheres of Action, and want field to exercise and employ those rich Talents and Abilities wherewith they are endowed, in doing all the Good they are thereby qualified and inclined to do.

My Lord,

I am sensible that the Present I make you, is neither for Bulk nor Worth suitable to your Person and Greatness; yet I hope you will favourably accept it, being the best I have to offer; and my boldness may

may pretend ſome excuſe from ancient acquaintance, and from my forwardneſs to embrace this opportunity of profeſsing my name among thoſe that honour you, and of publiſhing my ſelf,

My Lord,

Your Graces

moſt devoted Servant and

humble Orator,

John Ray.

THE

Dedicatory.

THE

PREFACE.

WERE it not cuſtomary and expected by the Reader, this Diſcourſe would need no Preface. All that I ſhall premiſe, ſhall be ſomething by way of Apology or Excuſe.

Firſt, For the two long Digreſſions I have made, the one concerning the general Deluge in the days of *Noah*, the other concerning the Primitive *Chaos* and Creation of the World. My firſt Plea is, their Affinity and near Relation to my Subject, The future Diſſolution of the World by fire inviting me to ſay ſomething of the former Deſtruction

on of it by Water. And the destruction being opposite to the formation, I had as good a Pretence to discourse likewise concerning that. My second excuse is, their agreement with my Subject in being alike matters of Ancient Tradition. Five matters of Ancient Tradition I have taken notice of, and four of them, by reason of their now-mentioned Relation one to another I have had a fair and inviting occasion to treat of in this Work. They are 1. That the World was formed out of a *Chaos* by the Divine Wisdom and Power. 2. That there was once an universal Flood of Waters, in which all Mankind perished, excepting some few that were saved in an Ark or Ship. 3. That the World shall one day be dissolved by Fire. 4. That there is a Heaven and an Hell, a *Tartarus* and an *Elysium*, and both eternal, the one to reward good men, and the other to punish wicked. 5. Of which I have

no

no occaſion to treat, That Bloody Sacrifices are to be offered for the Expiation of Sin. It may be doubted, whether theſe Traditions among the Heathen had their Original from ſome paſſages in Scripture, as that of the *Chaos* from the ſecond Verſe of the firſt Chapter of *Geneſis*. And the Earth was *Tohu vabohu*, which we render *without form and void*; and that of the *Deluge*, from the Hiſtory of it in the ſeventh Chapter of the ſame; and the future *conflagration* from ſeveral paſſages in the Prophets, *&c.*; or were antecedent to the Scripture: I rather think the latter, becauſe we find them among ſome Nations, which it's likely never had underſtanding of the Scriptures, nor indeed ever heard of them.

Secondly, For Writing ſo much, for which perchance ſome may cenſure me. I am not ignorant, that men as they are mutable, ſo they love change; and affect variety of Authors, as well

on as

as Books. Satiety even of the best things is apt to creep upon us. He that writes much, let him write never so well, shall experience that his last Books, though nothing inferiour to his first, will not find equal acceptance. But for mine own part, though in general I may be thought to have written too much; yet is it but little that I have written relating to Divinity.

Thirdly, For being too hasty in huddling up and tumbling out Books. Herein I confess I cannot acquit my self wholly from blame. I know well, that the longer a Book lies by me, the perfecter it becomes. Something occurs every day in reading or thinking, either to add, or to correct and alter for the better; but should I defer the Edition till the Work were absolutely perfect, I might wait all my life-time, and leave it to be published by my Executors. But I see that Posthumous Pieces generally prove inferiour

ferieur to those put out by the Authors in their lives. And perchance did the Reader know my Reasons for this speed, which I think it not fit now to lay open, he would judge them sufficient to excuse me. However hasty and precipitate I am in writing, my Books are but small, so that if they be worthless, the Purchase is not great, nor the Expence of Time wasted in the perusal of them very considerable. Yet is not the worth of a Book always answerable to its Bulk: But on the contrary Μέγα βιβλίον is usually esteemed ἴσον τῷ μεγάλῳ κακῷ· for Οὐκ ἐν τῷ μεγάλῳ τὸ εὖ, ἀλλ' ἐν τῷ εὖ τὸ μεγάλ. One thing still remains to advertise the Reader of, that is, that upon second thoughts, I do revoke what I have delivered as my Opinion or Suspicion concerning the Continuance of the Rain at the Time of the Deluge for one hundred and fifty dayes, because it is said the Waters prevailed so long upon

upon the Earth, that is, as I understand it, increased. I now grant that it lasted but forty natural days; because those words of God to *Noah*, predicting the Continuance of the Rain. Gen. 7. 4. *For yet seven days and I will cause it to rain upon the earth forty days and forty nights*, &c. seem to limit it to that term. So that we must seek some other reason for the prevailing of the Water for one hundred and fifty days; which probably might be the Continuance of the Emotion of the Centre of the Earth for so long time.

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Several

Several Books Written by Mr. *John Ray*, Fellow of the Royal Society, and Sold by *Samuel Smith*, at the *Prince's Arms* in S. *Paul's* Church-Yard.

Catalogus Plantarum circa Cantabrigiam nascentium, Octavo. Cantab. 1660.

Catalogus Plantarum Angliæ & Insularum adjacentium, Oct. Lond. 1670, & 1677.

A Collection of *English* and other Proverbs. *Cambridge. Octavo*, 1672. and 1678.

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The

The ſame Ornithology much Enlarged, in *Engliſh*. *London*, 1678.

Methodus Plantarum nova cum Tabulis. Londini, *Octavo*, 1682.

Franciſci Willughbeii Hiſtoria Piſcium cum Figuris. Recognovit, digeſſit, ſupplevit J. Raius. Oxoniæ, *Fol.* 1686.

Hiſtoria Plantarum Generalis, *Vol.* 2. Londini, *Fol.* 1686, 1688.

Faſciculus Stirpium Britannicarum. Londini, *Octavo*, 1688.

Synopſis Methodica Plantarum Britannicarum cum Virium Epitome. Londini, *Octavo*, 1690.

The Wiſdom of God manifeſted in the Works of the Creation. *London*, *Oct.* 1691.

The ſame much augmented. 1692.

Miſcellaneous Diſcourſes concerning the Diſſolution and Changes of the World, *&c.* *London*, *Octavo*, 1692.

ERRATA.

ERRATA.

PAge 19. *lin.* 1. *for* turned *read* tumid. *lin.* 30. *insert* a. *p.* 20. *l.* 3. *After* that *insert* they. *p.* 21. *l.* 3. *r.* Prophecy. *p.* 22. *l.* 8. *r.* συντέλεια. *p.* 24. *l.* 17 *r.* testatur. *p.* 26. *l.* 18. *r.* ἀνακαινισμόν. *l.* 27. *r.* εὐφυῶς. *p.* 27. *l.* 7. *r.* ἀνυπαρξίαν. *p.* 45. *l.* 13. *r.* Silt. *p.* 46. *l.* 21. *r.* *Camarg.* *p.* 61. *l.* 7. *r.* He. *p.* 81. *l.* 3. *After* the *insert* year. *p.* 62. *l.* 15. *After* of *insert* that. *p.* 79. *l.* 28. *dele* out of. *p.* 88. *l.* 12. *After* Alps *insert* For passing over a Mountain on the very Ridge of them *p.* 98. *l.* 21. *For* not *r.* at. *p.* 123. *l.* 18. *dele* in. *p.* 129. *l.* 16. *r.* lenticular. *p.* 185 *l.* 19. *After* be *insert* but. *p.* 197. 16. *r.* βάθιστον ὑπὸ χθονὸς.

OF

OF THE DISSOLUTION OF THE WORLD.

THE INTRODUCTION.

THERE is implanted in the Nature of Man a great desire and curiosity of fore-knowing future Events, what shall befal themselves, their Relations or Dependents in time to come; the Fates of Kingdoms and Common-wealths, especially the Periodical Mutations, and final *catastrophe* of the World.

Hence in ancient times, Divination was made a Science or Myſtery, and many Nations had their Colleges or Societies of Wiſemen, Magicians, Aſtrologers and Sooth-ſayers; as for example, the *Egyptians*, *Babylonians* and *Romans*. Hence the vulgar are very prone to conſult Diviners and Fortune-tellers.

To gratifie in ſome meaſure this Curioſity; and that his people might not in any privilege be inferiour to the Nations about them, it pleaſed God, beſides the ſtanding Oracle of *Urim*, not only upon ſpecial occaſions to raiſe up among the *Jews* extraordinary Prophets, by immediate Miſſion; but alſo to ſettle a conſtant Order and Succeſſion of them, for the maintenance and upholding whereof, there were Colleges and Seminaries inſtituted for the educating and fitting young men for the Prophetick Function. Theſe were the Sons of the Prophets, of whom we find ſo frequent mention in Scripture.

Moreover, it pleaſed God ſo far to condeſcend to the weakneſs of the *Jews*, that in the infancy of their State, he permitted them to conſult his Prophets concerning ordinary accidents of life, and affairs of ſmall moment:

ment: As we see *Saul* did *Samuel* about the loss of his Fathers Asses: which it's not likely he would have done, had it not been usual and customary so to do. In the latter times of that State, we read of no consulting of Prophets upon such occasions. At last also by their own confession, the Spirit of Prophecy was quite taken away, and nothing left them but a Vocal Oracle, which they called *Bath col, i.e.* the Daughter of a Voice, or the Daughter of Thunder, a Voice out of a Voice. This Dr. *Lightfoot* thinks to have been a meer Fancy or Imposture.

In the primitive Churches of Christians planted by the Apostles, there was also an Order of Prophets, 1 Cor. 12. 28. *God hath set some in the Church, first Apostles, secondarily Prophets*, &c. This Spirit of Prophecy was an extraordinary and temporary Gift, as were the Gifts of Healing and Speaking with Tongues, continuing not long after the death of the Apostles, and Consignation of the Canon of Scripture. So that now we have no means left us of coming to the knowledge of future Events, but the Prophecies contained in the Writings of the Holy Penmen of Scripture, which we must search diligently, consider attentively, and compare together, if we desire to understand any

thing of what ſhall befal the Chriſtian Church or State in time to come.

This Text which I have made choice of for my Subject, is part of a Prophecy concerning the greateſt of all Events, the Diſſolution of the World.

---

2 PETER iii. 11.

Seeing then all these things shall be dissolved, what manner of persons ought we to be in all holy conversation and godliness?

CHAP. I.

The Division of the Words and Doctrine contained in them, with the Heads of the following Discourse.

THESE words contain in them two Parts, 1. An Antecedent or Doctrine, *All these things shall be dissolved.* 2. A Consequent, or Inference thereupon, *What manner of persons ought we to be?*

The Doctrine, here only briefly hinted, or ſummarily propoſed, is laid down more fully in the precedent Verſe; *But the day of the Lord will come as a thief in the night, in which the heavens ſhall paſs away with a great noiſe, and the Element's ſhall melt with fervent heat, the Earth alſo, and the works that are therein ſhall be burnt up.*

Theſe words are by the generality of Interpreters, Ancient and Modern, underſtood of the final deſtruction or diſſolution of Heaven and Earth: in which ſenſe I ſhall chuſe rather to accept them at preſent, than with the Reverend and Learned Dr. *Hammond*, and ſome few others, to ſtem the Tide of Expoſitors, and apply them to the deſtruction of *Jeruſalem* and the Jewiſh Polity. I ſay then,

That this World and all things therein contained, ſhall one day be diſſolved and deſtroyed by Fire.

By *Heaven* and *Earth* in this place, the moſt rational Interpreters of Scripture, do underſtand only the whole *Compages* of this ſublunary World, and all the Creatures that are in it; all that was deſtroyed by the Flood in the days of *Noah*, and is now ſecured from periſhing ſo again, that I may borrow Dr. *Hammond*'s words, in his Annotations on this place. And again, the word *Heavens*

vens (saith he) being an Equivocal word, is used either for the superior Heavens, whether Empyreal or Ethereal, or for the sublunary Heavens, the Air (as the word *World* is either the whole Compages of the superior or inferior, or else only of the sublunary lower World) we may here resolve, that the Οὐρανοὶ and στοιχεῖα, Heaven and Host, or Elements thereof, are literally the sublunary aereal Heavens, and all that is therein, Clouds and Meteors, &c. Fowls and flying Creatures, and so, fit to join with the Earth and Works that are therein.

In prosecution of this Proposition, and in order to the Proof and Confirmation, and likewise the clearing and illustration of it, I shall, (1.) Give you what I find concerning the dissolution of the World; 1. In the holy Scripture. 2. In Ancient Christian Writers. 3. In the Heathen Philosophers and Sages.

(2.) I shall endeavour to give some answer to these seven Questions, which are obvious and usually made concerning it.

1. Whether there be any thing in Nature, which might prove and demonstrate; or argue and infer a future Dissolution of the World?

2. Whether shall this Dissolution be brought about and effected by Natural, or by Extraordinary Means and Instruments; and what

thoſe Means and Inſtruments ſhall be?

3. Whether ſhall the Diſſolution be gradual or ſudden?

4. Whether ſhall there be any Signs and Fore-runners of it?

5. At what Period of Time ſhall the World be diſſolved?

6. How far ſhall this Conflagration extend? Whether to the *Ethereal* Heavens, and all the Hoſt of them, Sun, Moon and Stars, or to the *Aereal* only?

7. Whether ſhall the Heavens and Earth be wholly diſſipated and deſtroyed, or only refined and purified?

CHAP.

CHAP. II.

The Teſtimonies of Scripture concerning the Diſſolution of the World.

1. THen, Let us conſider what we find delivered in the holy Scriptures, concerning the Diſſolution of the World. And firſt of all, This place, which I have made choice of for my Text, is in my opinion the moſt clear and full, as to this particular, in the whole Scripture; and will give light for the Solution of moſt of the propoſed Queſtions. V. 10. *The day of the Lord ſhall come as a thief*, &c. This anſwers the third Queſtion, Whether the Diſſolution ſhall be gradual or ſudden? *Wherein the Heavens ſhall paſs away with a great noiſe, and the Elements ſhall melt with fervent heat, the Earth alſo, and all the works that are therein ſhall be burnt up.* And again, V. 12. *Wherein the Heavens being on fire ſhall be diſſolved, and the Elements ſhall melt with fervent heat.* This anſwers the ſecond Queſtion, What the Means and Inſtruments of this Diſſolution ſhall be? V. 13. *Nevertheleſs we*

we according to his promiſe, look for a new Heaven and a new Earth, wherein dwelleth righteouſneſs. This gives ſome light toward the anſwering of the laſt Queſtion, Whether ſhall the Heavens and the Earth be wholly burnt up and deſtroyed, or only renewed and purified? Theſe Words as clearly as they ſeem to refer to the Diſſolution of the World, yet Dr. *Hammond* doubts not to be underſtood of the remarkable deſtruction of *Jeruſalem* and the *Jewiſh* State, he thus paraphraſing them.

V. 10. *But the day of the Lord will come as a thief in the night, in which the Heavens ſhall paſs away with a great noiſe, and the Elements ſhall melt with fervent heat, and the Earth alſo, and the works that are therein ſhall be burnt up.*

But this Judgment of Chriſt, ſo remarkable on the *Jews*, ſhall now ſhortly come, and that very diſcernably; and the Temple ſhall ſuddenly be deſtroyed, the greater part of it burnt, and the City and People utterly conſumed.

V. 11. *Seeing then all theſe things ſhall be diſſolved, what manner of perſons ought ye*

ye to be in all holy converſation and godlineſs?

Seeing then this deſtruction ſhall thus involve all, and now approacheth ſo near, what an engagement doth this lay upon us to live the moſt pure ſtrict lives that ever men lived?

V. 12. *Looking for and haſtning unto the coming of the day of God, wherein the heavens, being on fire, ſhall be diſſolved, and the Elements ſhall melt with fervent heat.*

Looking for the coming of Chriſt, for our deliverance, and by our Chriſtian lives quickning and haſtning God to delay it no longer; that Coming of his, I ſay, which as it ſignifies great mercy to us, ſo it ſignifies very ſharp deſtruction to the whole *Jewiſh* State.

V. 13. *Nevertheleſs we according to his promiſe, look for new Heavens and a new Earth, wherein dwelleth righteouſneſs.*

Inſtead of which we look for a new Chriſtian State, wherein all proviſion is made by Chriſt for righteouſneſs to inhabit, according to the promiſe of Chriſt concerning the puri-

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ty that he ſhould plant in the Evangelical State.

How he makes out and confirms this Paraphraſe, ſee in his *Annotations* upon this place. So confident is he of the Truth of this his Interpretation, that he cenſures the uſual one as a great Miſtake, in his *Annotation* on *v.* 10. where he thus writes; What is here thus expreſſed by S. *Peter*, is ordinarily conceived to belong to the end of the World, and by others applyed to the end of this World, and the beginning of the *Millenium*, or thouſand years. And ſo, as S. *Peter* here ſaith, *v.* 16. many other places in S. *Paul's* Epiſtles, and in the Goſpel, eſpecially *Matth.* 24. are miſtaken and wreſted. That it doth not belong to either of thoſe but to this fatal day of the *Jews*, ſufficiently appears by the purport of this whole *Epiſtle*, which is, to arm them with Conſtancy and Perſeverance till that day come; and particularly, in this Chapter, to confute them who object againſt the Truth of Chriſt's Predictions, and reſolve it ſhould not come at all: Againſt whom he here oppoſes the Certainty, the Speedineſs, and the Terribleneſs of its coming. That which hath given occaſion to thoſe other common Miſtakes, is eſpecially the Hideouſneſs of thoſe Judgments, which fell upon that People of the

Jews,

Jews, beyond all that ever before are related to have fallen upon them, or indeed any other people, which made it necessary for the Prophets, which were to describe it (and who use Tropes and Figures, and not plain Expressions, to set down their Predictions) to express it by these high Phrases, of the *passing away* and *dissolving* of *Heaven* and *Earth* and *Elements*, &c. which sounding very tragically, are mistaken for the great and final Dissolution of the World. So far the Doctor. Two things there are in this Chapter, which seem to contradict this Interpretation; First, That the Destruction here spoken of, is compared with *Noah*'s Flood; and the Heaven and Earth to be dissolved by this, made parallel, and of equal extent to the World destroyed by that. Of this the *Doctor* was well aware, and therefore grants, that the 7th Verse, *But the Heavens and the Earth which are now, by the same word are kept in store, reserved unto fire against the day of judgment, and perdition of ungodly men*, is to be understood of the general and final destruction of the World by fire, but the following Verses to be an Answer to the first part of the Atheists Objection, viz. *Where is the promise of his coming?* To me it seems, that all refer to the same matter. The second thing which seems to contradict the

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Doctor's Interpretation, is, the Apoſtles citin for the inſtruction and confirmation of th Believers, and in anſwer to the Atheiſts Ob jection (*Where is the promiſe of his coming?* that place of the Pſalmiſt, *Pſal.* 90. 4. Tha *one day is with the Lord as a thouſand years and a thouſand years as one day.* For th Apoſtle ſeems to ſuppoſe, that the time o Chriſt's coming, might poſſibly be a thouſan years off; and that they were not to thin much, or diſtruſt the promiſe, if it were ſo for though it were predicted as a thin ſhortly to come, yet they were to conſide that a thouſand years in God's ſight, is but very ſhort time; ſo that it might be fore to as ſhortly to come, though it were a tho ſand years off. Whereas it might ſeem in proper to mention a thouſand years to ſu port them in expectation of an Event th was not twenty years to come.

Another place where mention is made Chriſt's coming to Judgment, and the Diſſ lution of the World, is *Matth.* 24. to whi may be added as parallel, *Mark* 13. a *Luke* 21. In which places you have con derable, 1. The Suddenneſs of Chriſt's com ing, v. 27. *As the lightning comes out of t Eaſt, and ſhineth even unto the Weſt, ſo ſh the coming of the Son of Man be.* 2. The Sig of his coming, v. 29. *Immediately after t tribulati*

tribulation of those days, shall the Sun be darkned, and the Moon shall not give her light, and the Stars shall fall from Heaven, and the powers of Heaven shall be shaken. 3. The manner of his coming, v. 30. *And then shall appear the Sign of the Son of Man in Heaven: and then shall all the Tribes of the Earth mourn, when they shall see the Son of Man coming in the Clouds of Heaven with power and great glory. And he shall send his Angels with a great sound of a Trumpet, and they shall gather together his Elect from the four Winds, from one end of Heaven to the other.* 4. The Uncertainty of the time of his coming, and this dissolution as to us, *But of that day and hour knoweth no man, no not the Angels in Heaven:* and *Mark* adds, *neither the Son, but the Father only.*

All this Prophecy Dr. *Hammond* understands of the destruction of the City and Temple of *Jerusalem*, and whole Nation of the *Jews*; as may be seen in his *Paraphrase* and *Annotations* upon this place. And indeed our Saviour himself seems to limit it to this, saying, v. 24. *Verily I say unto you, this generation shall not pass away, till all these things be fulfilled.* For if these Prophecies look further than the destruction of *Jerusalem*, even to Christ's coming to Judgment, how could it be true, that that generation

ration ſhould not paſs away till all thoſe things were fulfilled? Whereas we ſee, that that Generation is long ſince paſſed away, and yet the end is not yet? And indeed Expoſitors that underſtaud them of the end of the World, and Chriſt's ſecond coming to Judgment, are hard put to it to anſwer this Objection. S. *Chryſoſtom* will have this word γενεὰ to be underſtood not of the Generation of men then living, but of the Generation of the faithful, which ſhould not fail till the end of the World. Οἶδε γὰρ (ſaith he) γενεὰν οὐκ ἀπὸ χρόνων μόνον χαρακτηρίζειν, ἀλλ' ἀπὸ τρόπου θρησκείας καὶ πολιτείας, ὡς ὅταν λέγῃ, Αὕτη ἡ γενεὰ ζητούντων σε, &c. *He denominates a Generation not only from living together in the ſame time, but from having the ſame form and manner of religious Worſhip and Polity; as in that place, This is the generation of them that ſeek thee, that ſeek thy face, O Jacob.* *Beza* underſtands γενεὰ of the preſent Age, and will have it to be of the ſame valor with דור in *Hebrew*, and πάντα ταῦτα to refer not to all particulars mentioned in this Chapter, but only to thoſe which are ſpoken of the deſtruction of the City and Nation of the *Jews*. But (ſaith he) if any one urgeth the univerſal Particle, *Vertere licebit, Fiant omnia*, viz. *quæ ultimam illam diem præceſſura dixit.* Nam

ab illo tempore cæperunt fieri, & adhuc perſeverant illa ſigna, ſuo demum tempore. Filio hominis venturo.

But on the other ſide, 1. Some paſſages there are in this Chapter, which are hardly applicable to the deſtruction of *Jeruſalem*, and the Diſſolution of the *Jewiſh* Commonwealth; as *the appearing of the Sign of the Son of man in heaven, and the Tribes ſeeing the Son of man coming in the clouds of heaven, with power and great glory. And his ſending his Angels with a great ſound of a Trumpet.* 2. The coming of Chriſt is in like manner deſcribed in places which undoubtedly ſpeak of his coming to Judgment at the end of the World. As in 1 *Cor.* 15. 52. mention is made of the *Trumpets ſounding* at the time of Chriſt's coming: and 1 *Theſſ.* 4. 16. it is ſaid, *The Lord himſelf ſhall deſcend from heaven with the voice of the Archangel, and with the trump of God:* and v. 17. *We that are alive ſhall be caught up together with them* [that are riſen] *in the clouds to meet the Lord in the Air.* All which places are perfectly parallel, and ſeem manifeſtly to allude to the fore-mentioned words, *Matth.* 24. 30, 31. I am apt to think, that theſe Prophecies may have a double reſpect; one to the City, Temple, and Nation of the *Jews*; another to the whole World at the great

day of Doom: and that the former is indeed Typical of the latter: and ſo they have a double completion; the firſt in the deſtruction of *Jeruſalem* and the *Jewiſh* Polity: In reference to which, it is truly ſaid, *This generation ſhall not paſs away till all theſe things be fulfilled.* The ſecond in the final Diſſolution of the World, which is yet to come.

But to proceed, Another place which is uſually underſtood of the Diſſolution of the World by fire, is 2 Theſſ. 1. 7, 8. *When the Lord Jeſus ſhall be revealed from heaven with his mighty Angels in flaming fire,* &c. Other parallel places may be ſeen, Rev. 6. 12, 13, 14. Rev. 10. 6. Rev. 21. 1. *And I ſaw a new Heaven and a new Earth, for the firſt Heaven and the firſt Earth were paſſed away, and there was no more Sea,* Heb. 12. 26, 27. Theſe places ſpeak more directly of the Diſſolution of the World, and the coming of Chriſt to Judgment. Others there are that ſpeak only concerning the time of it, 1 Pet. 4. 7. *But the end of all things is at hand.* James 5. 9. *Behold the Judge ſtandeth before the door.* 1 John 2. 18. *Little children it is the laſt time*; or as ſome tranſlate it, the laſt hour, ἐσχάτη ὥρα. Heb. 10. 37. *Yet a little while, and he that ſhall come, will come, and will not tarry.* μικρὸν ὅσον ὅσον

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Luke 18. 17. *I tell you he will avenge them ſpeedily.* All theſe places the fore-mentioned Dr. *Hammond* ſtill applies to that famous Period of the deſtruction of the City, Temple and Polity of the *Jews:* and in concluſion hath left us but one place in the New Teſtament, to prove the general Conflagration of the World, *viz.* 2 *Pet.* 7. 7.

Now becauſe ſome have been offended at theſe Interpretations of his; others have ſpoken very ſlightingly of them: I ſhall briefly ſum up what hath been alleged in defence of them, by this great man.

1. That the Prophets uſe to ſet down their Predictions in Tropes and Figures, and not in plain expreſſions, (*their Style being Poetical*). And therefore in deſcribing thoſe hideous Judgments which fell upon that people of the *Jews*, beyond all that ever before fell upon them, or indeed any other people, they found it neceſſary to employ thoſe High and Tragical Phraſes of the paſſing away and diſſolving Heaven, and Earth, and Elements. And that this was the manner of the Prophets, may be proved; becauſe we find the deſtruction of other places deſcribed in as High Strains, as Loſty and Tragical Expreſſions as this of *Jeruſalem.* For example, that of *Idumæa*, Eſay 34. 9. *The ſtreams thereof ſhall be turned into pitch, and*

the duſt thereof into brimſtone, and the land thereof ſhall become burning pitch. It ſhall not be quenched night nor day, the ſmoke thereof ſhall go up for ever. And in the 4th Verſe he ſeems but to Preface to this Deſtruction in theſe words, *And all the hoſt of Heaven ſhall be diſſolved, and the Heavens ſhall be rolled together as a ſcroll: and all their hoſts ſhall fall down as the leaf falleth off from the Vine, and as a falling Fig from the Fig-tree; For my Sword ſhall be bathed in Heaven: Behold it ſhall come down upon* Idumæa. And in the Burden of *Babylon.* Chap. 13. 8, 9. we have theſe words, *Behold the day of the Lord Cometh, cruel both with wrath and fierce anger to lay the Land deſolate: For the Stars of Heaven and the conſtellations thereof ſhall not give their light: The Sun ſhall be darkened in his going forth, and the Moon ſhall not cauſe her light to ſhine.*

2. All the Predictions in that famous place, *Matth.* 24. to which all other places in the New Teſtament relating to this matter are parallel, are by our Saviour himſelf reſtrained to the deſtruction of *Jeruſalem,* and the full completion of them limited to the duration of that Age: Verſe 34. *Verily I ſay unto you, This generation ſhall not paſs till all theſe things be fulfilled.* What reaſon then can we have to extend them further?

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3. In most of the places where this coming of Christ is mentioned, it is spoken of as near, and at hand; as in the places last cited. Now, (saith the Learned Doctor) in his Note upon *Luke* 18. 7. *I tell you he will avenge them speedily:* All which if (when it is said to approach and to be at the door) it belonged to the Day of Judgment (now after so many hundred years not yet come) what a μακροθυμία were this? what a delaying of his coming? and consequently, what an Objection against the truth of the Christian Religion? As *Mahomet* having promised after his death he would presently return to life, and having not performed his Promise in a thousand years is by us justly condemned as an Impostor.

3. That this place of S. *Peter*, out of which I have taken my Text, doth not belong to the end of the World sufficiently appears (saith he) by the purport of this whole Epistle, which is to arm them with constancy and perseverance till that Day come, and particularly in this Chapter to confute them who object against the truth of Christs Predictions, and resolve it should not come at all; against whom he here opposes the certainty, the speediness, and the terribleness of its Coming. And for that other famous Place, 2 *Thessal.* 1. 8, 9. that

it belongs to the ſame Period; ſee how he makes out in his Annotations.

I ſhall now ſuperadd ſome places out of the Old Teſtament, which ſeem to ſpeak of the Diſſolution of the World, *Job* 14. 12. *Man lieth down and riſeth not till the Heavens be no more.* Pſalm 102. 5, 6. quoted *Heb.* 1. 10, 11. *Of old haſt thou laid the foundations of the Earth, and the Heavens are the works of thy hands. They ſhall periſh but thou remaineſt; and they all ſhall wax old as doth a garment, and as a veſture ſhalt thou change them, and they ſhall be changed.* Eſay 34. 4. *And all the hoſt of Heaven ſhall be diſſolved, and the Heavens ſhall be rolled together as a ſcroll, and all their hoſt ſhall fall down as a leaf falleth from the Vine,* &c. Eſay 51. 6. *The Heavens ſhall vaniſh away like ſmoke, and the Earth ſhall wax old like a garment.* Joel 2. 31. *The Sun ſhall be turned into darkneſs, and the Moon into blood, before that great and terrible day of the Lord comes.* Malachi 4. 1. *Behold the day cometh that ſhall burn like an Oven,* &c. *Deut.* 32, 22. *For a fire is kindled in my anger, and ſhall burn to the loweſt Hell, and ſhall conſume the Earth with her encreaſe, and ſet on fire the foundations of the Mountains.* I muſt confeſs that the Prophetick Books are full of figurative Expreſſions, being written in a Po-

a Poetick Style, and according to the ſtrain of the Oriental Rhetorick, which is much different from the *Euporean*, affecting loſty and turned Metaphors and exceſſive *Hyperbola*'s and Aggravations, which would either ſound harſh to our Ears, or import a great deal more to us than they did to them. This is obvious to any one that reads their Books; and may clearly be demonſtrated from the Titles that their Kings aſſumed to themſelves as well Anciently as lately, *viz. Sons of the Sun, Brethren of the Sun and Moon, Partners of the Stars, Lions Crowned in the Throne of the World, Endued with the ſtrength of the whole Heaven, and Virtue of the Firmament.* Now we cannot poſſibly imagine them ſo vain as to think themſelves literally to be ſuch: no ſure, all they meant by theſe Expreſſions was that they were great, and honourable, and powerful. Now the Prophetick Books of the Old Teſtament being written in a Style ſomewhat conformable to the Oratory of thoſe Countreys, are not (I humbly conceive) in every tittle to be ſo exactly ſcanned and literally expounded, but ſo to be interpreted as a *Jew* or an *Aſiatick* would then have underſtood them. And this I rather think, becauſe there be divers paſſages in the Prophets, which cannot be verified in

ſtrict literal ſenſe; As in the place before quoted, *Eſay* 34. 9. It is ſaid of the *ſtreams of* Idumæa *that ſhould be turned into Pitch, and the duſt thereof into Brimſtone; and the Land thereof ſhould become burning Pitch; and ſhould not be quenched night nor day, but the ſmoke thereof ſhould go up for ever.* And of the City of *Tyre* it is ſaid *Ezek.* 26. 14. *It ſhall be built no more.* And *verſe* 19. *When I ſhall make thee a deſolate City like the Cities that are not inhabited, when I ſhall bring up the Deep upon thee, and great waters ſhall cover thee.* And *verſe* 21. which is thrice repeated, *I will make thee a terror, and thou ſhalt be no more: though thou be ſought for, thou ſhalt never be found again, ſaith the Lord God.* And yet we ſee that the City of *Tyre*, though it was indeed wholly diſpeopled at that time, the Inhabitants transferring themſelves into *Africa*, when it was beſieged by *Nebuchadnezzar*; yet was it afterward peopled again, and continues a City inhabited to this day. And of *Babylon*, it is ſaid that *there ſhould none remain in it, neither man nor beaſt, but that it ſhould be deſolate for ever.* Jer. 51. 62. Eſay 13. 20. and of the Land of *Babylon*, Verſe 29. that *it ſhould be a deſolation without an Inhabitant.* And though indeed this Propheſy was I think as to the

the City at last verified in the Letter; yet did *Babylon* long continue a great City after this Paraphrase: And the Land of *Babylon* is now inhabited, there being at this day a great City not far from the place where *Babylon* stood. So that these places import no more, then that there should be a very great Destruction and Devastation of those Cities and Countries. As for those places in the Old and New Testament, wherein mention is made of the last Days and the last Times, it is clear that they are to be understood of the Age of the Messiah, all the time from the Exibition of the Messiah to the end of the World, *Esay* 2. 1. *And it shall come to pass in the last days, that the Mountain of the Lords house shall be established in the top of the Mountains, and shall be exalted above the Hills, and all Nations shall flow to it*; which very words we have repeated *Michah* 4. 1. So that Prophesie of *Joel* 2. 28. quoted *Acts* 2. 17. *And it shall come to pass in the last days saith God, I will pour out of my Spirit upon all flesh*, &c. is to be understood. Hence the *last Days* have among the *Jews* proverbially signified the days of the Messiah, as *Doctor Hammon* in his Annotations upon this place tells us; who also Notes, that in that place of *Joel*, *the last days* do literally signifie the

the laſt days of the *Jews*, immediately preceding their deſtruction, called there the *Great and terrible Day of the Lord.* So *Heb.* 1. 2. ἐπ' ἐσχάτων τῶν ἡμερῶν τούτων, *in theſe laſt days* is meant the days of the Meſſias. So 1 *Pet.* 1. 20. 2 *Pet.* 3. 3. 1 *Tim.* 4. 1. 2 *Tim.* 3. 1. mention is made of *the laſt days* in this ſenſe. In like manner the end of the World, συντέλεια τοῦ αἰῶνος, Heb. 9. 26. *But now once in the end of the World hath he appeared to put away ſin by the Sacrifice of himſelf.* And τὰ τέλη τῶν αἰώνων the Ends of the World, 1 *Cor.* 10. 11. *Upon whom the ends of the World are come,* ſignifie the Age of the Meſſias, though indeed the former ſeems more peculiarly to denote the ſhutting up of the Jewiſh Age or Oeconomy.

CHAP. III.

The Teſtimonies of the Ancient Fathers and Doctors of the Church, concerning the Diſſolution of the World.

2. I Proceed now to what the Ancient Fathers of the Church and Chriſtian Writers have delivered concerning the Diſſolution of the World.

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That there ſhall be a Diſſolution of this World, and that it ſhall be by Fire, is ſo certain and clear among them, that it would be ſuperfluous to cite Particulars to prove it: nay, ſo general and unanimous is the conſent of all Chriſtians in this Point, that, as *Origen* obſerves in his third περὶ Ἀρχῶν, and the learned Doctor *Hakewill* after him, whereas there can hardly be named any Article of our Faith, which ſome Hereticks have not preſumed to impugne or call in Queſtion, yet not any to be met with who queſtions this; but herein all agree, being compelled (ſaith *Origen*) by the Authority of the Scriptures. As for the time of this Diſſolution the Ancient Chriſtians held it to be at hand, as might eaſily be proved by many Teſtimonies, were it not granted on all hands. And here it may be worth the obſerving, that the longer the World ſtood, the further off generally have Chriſtians ſet the day of Judgment, and end of it. Many of the Ancients did conceive, that the Diſſolution ſhould be at the end of ſix thouſand years. As for Example, *Juſtin Martyr* in *Quæſt. & Reſp. ad Orthodoxos*, if he be the Author of that Piece, where this Queſtion (*When the end of the World ſhould be?*) being put, the Anſwer is, Ἔνεστι διὰ πολλῶν γραφικῶν μαρτυριῶν, &c. *We may rationally*

ly conjecture and conclude from many Scri-ture Expreſſions, that they are in the rig-who ſay, that the World will laſt ſix thouſan-years. For in one place it ſaith, in theſe la-days, *and in another,* Upon whom the end of the World are come, *and in a third,* Whe-the fulneſs of time was come. *Now it i-evident that theſe things were ſpoken in th-ſixth Millenary.*

Irenæus adv. hæreſ. lib. 5. cap. ult. Wh-gathers ſo much from t-Similitude of th-ſix days Creation, after which ſix days w-the Sabbath, that is, the day of Reſt; *H-autem* (ſaith he) *eſt & præteritorum narr-tio, & futurorum prophetia. Dies enim-nus mille annos ſignificabat, ſicut Scriptura te-*

* 2 Pet. 3. *ſtantur;* * *Mille anni ante Dominum ſic-Dies unus: ergo ſicut conſummatus fuit mu-dus in ſui creatione intra ſex dierum ſpat-um, & poſtea quies; ſic in ſui fine conſumm-bitur intra ſpatium ſex millium annorum, d-inde vera & perpetua quies ſubſequetu-* This is both a Narration or Hiſtory of wha-is paſt, and a Propheſie of things to come. For one day ſignified a thouſand years, a-the Scriptures teſtifie, A thouſand years i-the ſight of God are but as one day. There-fore as the World at the firſt Creation wa-conſummated in the ſpace of ſix days, and afterwards followed the Sabbath o-

Reſt

eſt; ſo in the end its duration ſhall be con-ummated within the ſpace of ſix thouſand ears; and then ſhall follow the true and erpetual Reſt.

To theſe I might add *Lactantius*, in his Se-enth Book of Inſtitut. *Cap.* 14. who uſeth he ſame Argumentation with *Irenæus*, *Ergo uoniam ſex diebus cuncta Dei opera perfecta unt: per ſecula ſex, id eſt, ſex annorum mil-ia manere in hoc ſtatu mundum neceſſe eſt. Dies enim magnus Dei mille annorum circulo erminatur, ſicut indicat Propheta, qui dicit, Ante oculos tuos, Domine, mille anni tan-uam dies unus*, &c. *S. Auguſtine*, l. 20. De ivitate Dei. S. *Hieronymus Comment. in Mich.* cap. 4. Moſt clear and full to this pur-oſe is *Euſtath.* in his Comment. in *Hexaë-eron* Λογιζόμεθα γὰρ ἓξ χιλιάδας πλὴν κλίσιν, &c. *We reckon* (ſaith he) *that the Creation ſhall ontinue till the end of the ſixth Chiliad, be-auſe God alſo conſummated the Univerſe n ſix days; and I ſuppoſe that the Deity loth account days of a thouſand years long; or that it is ſaid,* A thouſand years are in he ſight of the Lord as one day. Howbeit he moſt of them did not propoſe this Opi-ion as an undoubted Truth, but only as a Modeſt Conjecture. And S. *Auſtine* is very ngry with them, who would peremptorily onclude from ſo ſlight an Argumentation.

This

This Conceit is already confuted, a the World hath long outlasted this ter according to their Computation who follo ed the *Septuagint* or *Greek* account, and rec ned that *Phaleg* lived about the three tho sandth year of the World, and had his Na from his living in the division of Time, the being to come after him three thousa years, that is, just so many as were past b fore him.

As concerning the future Condition of t World after the Conflagration, I find it t general and received Opinion of the Ancie Christians, that this World shall not be a nihilated or destroyed, but only renew and purified. So *Eusebius*, Ὀυ παντελ πρὸς φθορὰν ὁ κόσμος χωρήσει, ἀλλὰ πρὸς ἀ καινισμὼν. *The World shall not be wholly d stroyed, but renewed.* Divers passages I mig produce out of him to the same purpos *Cyril* of *Jerusalem* Catech. 15. Ἐιλίσσει τοὺς οὐρανοὺς οὐκ ἵνα ἀπολέσῃ τούτους, ἀλλ' ἵ καλλιόνας ἐγείρῃ. He folds up the Heaven not that he might destroy them, but th he might rear them up again more beau ful. Again, *Cyril* upon this place, θάνατ δὲ τῶν στοιχείων ὠφυῶς ὀνομάζει τὴν εἰς τὰ ἀμεί μεταβολὴν, &c. So that this Renovation i respect of the Creation shall be such a kin of thing as the Resurrection in reference t

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Mans Body. *Oecumenius* upon this place, He ſaith, *new Heavens* and a *new Earth*, οὐκ ἑτέραν τῇ τῇ ὕλῃ, yet not different in matter; And again, οὐκ εἰς ἀφανισμὸν ἀλλ' εἰς κάθαρσιν. They ſhall not be deſtroyed or annihilated, but only renewed and purified. And upon *Revel.* 21.2. Τοῦτο οὐ τὴν ἀν' ὑπερξίαν δηλῶν τῆς κτίσεως, ἀλλὰ τὸν ἀνακαινισμόν. This he ſaith, not denoting the Non-exiſtence of the Creation, but the Renewing. In this manner he expounds *Pſalm* 102. 5, 6. and proceeding, ſaith, We may here take notice, that the Apoſtle doth not uſe the word ἀπῆλθεν, as if the Heaven and Earth were annihilated and brought to nothing, but μετέβη, they paſſed away or removed, or changed State. Saint *Hierome* upon the Pſalms, *Pſalm* 102. ſaith, *Ex quo oſtenditur perditionem cœlorum non interitum ſonare, ſed mutationem in melius. From which words* [as a Veſture ſhalt thou change them] *may be ſhewn and made out, that the Diſſolution of the Heavens doth not ſignifie their utter deſtruction or annihilation, but only their change into a better State.* I might add abundance more Teſtimonies, but theſe I think may ſuffice.

CHAP.

CHAP. IV.

The Opinions of the Ancient Heathen Philoſophers, and other Writers concerning the Diſſolution.

3. IT follows now than I give you an account, what the Ancient Philoſophers and Sages among the Heathen thought and delivered concerning this Point. Two of the four principal Sects of Philoſophers held a future Diſſolution of the World, *viz.* The *Epicureans* and *Stoicks*.

As for the *Epicureans*, they held that the World was at firſt compoſed by the fortuitous concourſe of Atomes, ſo it ſhould at laſt fall in pieces again by their fortuitous Separation, as *Lucretius* hath it, *lib.* 5.

Principio maria ac terras cœlúmque tuere,
Horum naturam triplicem, tria corpora Memmi,
Tres ſpecies tam diſſimiles, tria talia texta
Una dies dabit exitio, multóſq; per annos
Suſtentata ruet moles & machina mundi.

But now to prove all this: firſt caſt an Eye
And look on all below, on all on high,
The ſolid Earth, the Seas, and arched Sky

The

One fatal Hour muſt ruine all,
This glorious Frame, that ſtood ſo long,
(muſt fall.

This Opinion of theirs is conſonant enough to their wild Principles ſave only in that point of its ſuddenneſs, *Una dies dabit exitio*, &c. one day ſhall deſtroy or make an end of it.

The *Stoicks* were alſo of Opinion that the World muſt be diſſolved, as we may learn from the Seventh Book of *Laertius* in the Life of *Zeno*. Ἀρέσκει δὲ αὐτοῖς, &c. They hold that the World is corruptible for theſe Reaſons, 1. Becauſe it was generated and had a beginning. 2. Becauſe That is corruptible in the whole, whoſe parts are corruptible: But the parts of the World are corruptible, being daily tranſmuted one into another. 3. That which is capable of Mutation from better to worſe is corruptible. But ſuch is the World; ſometimes being afflicted with long Heats and Droughts, ſometimes with continued Showers and Inundations. To thoſe we may add 4. according to ſome of their Opinions, Becauſe the Sun and Stars being fed with Vapours exhaled from the Earth, all the moiſture will at length be drawn out, and the World fly on fire. They were afraid * *nè humore omni*

* Minut. Felix.

omni consumpto totus mundus ignesceret. This Dissolution of the World they held should be by Water and by Fire alternately at certain periods, but especially by Fire, which they call ἐκπύρωσιν. *Philo*, οἱ δὲ Στωϊκοὶ τῆς φθορᾶς τοῦ κόσμου αἰτίαν φασὶ τὴν ὑπάρχουσαν ἐν τοῖς οὖσι πυρὸς ἀκαμάτου, δύναμιν, χρόνων μακρᾶς περιόδοις ἀναλύουσαν τὰ πάντα εἰς ἑαυτόν. The *Stoicks* say that the cause of the destruction of the World is the irresistible force of Fire that is in things, which in long periods of time consumes and dissolves all things into itself. *Euseb. Præp.* lib. 15. Ἀρέσκει δὲ τοῖς πρεσβύτατοις τῶν ἀπὸ τῆς αἱρέσεως ἐξαιρεῦσθαι πάντα κατὰ περιόδους τινὰς μεγίστας, ἐν πῦρ αἰθεροῦδες ἀναλυομένων πάντων. *The most ancient of that Sect held, That at certain vast Periods of time all things were rarified into Air, being resolved into an Ethereal Fire.* This Ἐκπύρωσις of the *Stoicks* we find mentioned by many, both Christian and Heathen Writers, as besides the fore-quoted, *Minutius Felix, Justine Martyr, Clemens Alexandrinus* in 5 Strom. *Plutarch*; *Seneca* and others. The time of this Conflagration *Seneca* determins not, but saith only, it shall be when God pleases. 3 Quæst. nat. cap. 20. 8. *Cùm Deo visum, vetera finire, ordine meliora; When it shall seem good to God to put an end to old things, and to begin better.*

Som

Some there be who tell us of the *Annus Platonicus* or *magnus*, by which they underſtand ſuch a period of time, as in which all the heavenly Bodies ſhall be reſtored to the ſame Site and diſtance they were once in, in reſpect of one another: As ſuppoſing that all the Seven Planets were at the moment of Creation in the firſt degree of *Aries*, till they come all to be in the ſame degree again, all that ſpace of time is called the Great Year, *Annus magnus:* In this Year they tell us that the height of Summer is the Conflagration, and the depth of Winter the Inundation; and ſome Aſtrologers have been ſo vain as to aſſign the time both of the Inundation and Conflagration, *Seneca* 3. *Quæſt. Nat.* cap. 20. *Beroſus, qui Belum interpretatus eſt, dicit, curſu iſta ſyderum fieri, & adeò quidem affirmat, ut conflagrationi atque diluvio tempus aſſignat. Arſura enim terrena contendit, quando omnia ſydera in Cancro convenerint: inundationem futuram, quando eadem ſyderum turba in Capricorno convenerit.* *Beroſus, who interpreted Belus, ſaith, that thoſe things come to paſs according to the courſe of the Stars: and he ſo confidently affirms it, that he aſſigns the time both for the Conflagration and Inundation. For that all Earthly Bodies will be burnt up, when all the Stars ſhall meet in* Cancer; *and the Inun-*

dation will fall out, when the ſame ſhall be in conjunction in Capricorn. Concerning the manner of this Conflagration, they held it ſhould be ſudden. *Senec. Natura ſubitò ad ruinam, & toto impetu ruit; licet ad originem parcè utatur viribus, diſpenſétque ſe incrementis fallacibus. Momento fit cinis, diu ſylva,* &c. Nature doth ſuddenly and with all its force ruſh on to Ruin, though to the riſe and formation of things it uſeth its ſtrength ſparingly, diſpenſing its influence and cauſing them to grow by inſenſible degrees; a Wood is long in growing up, but reduced to aſhes almoſt in a moment. And ſome of them were ſo abſurd as to think, that the Stars ſhould juſtle and be daſhed one againſt another; *Senec. lib. de conſolatione ad Marciam: Cùm tempus advenerit: quo ſe mundus revocaturus extinguat, viribus iſta ſe ſuis cadent; & ſydera ſyderibus incurrent; & omni flagrante materia, uno igne, quicquid nunc ex diſpoſito lucet ardebit.* Here by the way we may with *Doctor More* [Souls Immortality, lib. 3. cap. 18.] take notice how Courſly, not to ſay, Ridiculouſly, the *Stoicks* Philoſophize, 'when they are turned out of their Road 'way of Moral Sentences, and pretend to 'give an account of the Nature of Things. 'For what Errours can be more groſs than 'they entertain of *God*, of the *Soul*, and of

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'the *Stars*; they making the two former 'Corporeal Subſtances, and feeding the lat-'ter with the vapours of the Earth, affirm-'ing that the Sun ſups up the Water of the 'great Ocean to quench his Thirſt, but that 'the Moon drinks off the leſſer Rivers and 'Brooks, which is as true as that the Aſſe 'drank up the Moon. Such Conceits are 'more fit for *Anacreon* in a drunken Fit to 'ſtumble upon, who to invite his Compa-'nions to Tiple, compoſed that Catch,

Πίνει θάλασσα δ' ἄυρας,
Ὁ δ' ἥλιος θάλασσαν.

'then to be either found out or owned by a 'ſerious Philoſopher. And yet *Seneca* migh-'tily triumphs in this Notion of foddering 'the Stars with the thick Fogs of the Earth, 'and declares his Opinion with no mean 'Strains of Eloquence, &c.

As for the extent of this Conflagration, they Held that not only the Heavens ſhould be burnt, but that the Gods themſelves ſhould not eſcape Scot-free. So *Seneca*, *Reſoluto mundo*, & *Diis in unum confuſis*. And again, *Atque omnes pariter Deos Perdet nox aliqua & Chaos*. Is not this wiſe Philoſophy? If their Morality were no better than their Phyſicks, their *Wiſe man* they boaſt of might

be so denominated κατ' ἀντίφρασιν, as they of *Gotham*.

But let us look a little further, and we shall find that the *Stoicks* were not the first Authors of this Opinion of the Conflagration; but that it was of far greater Antiquity than that Sect. Others of the more ancient Philosophers having entertained it, *viz.* *Empedocles*, as *Clemens Alexandrinus* testifies in his 5 *Strom.* ὡς ἐσομένης ποτὲ εἰς τὴν τοῦ πυρὸς οὐσίαν μεταβολῆς. 2. *Heraclitus*, as the same *Clemens* shews at large out of him in the same place, ὅπως δὲ πάλιν ἀναλαμβάνεται καὶ ἐκπυροῦται, &c. And *Laertius* in the Life of *Heraclitus*, He taught ἕνα εἶναι τὸν κόσμον, γεννᾶσθαί τε αὐτὸν ἐκ πυρὸς, καὶ πάλιν ἐκπυροῦσθαι κατὰ τινὰς περιόδους ἐνάλλαξ τὸν σύμπαντα αἰῶνα. *That there is but one World, and that it was generated out of Fire, and again burnt up or turned into Fire at certain periods alternately throughout all Ages.* I might add to these the Ancient *Greek* Poets, *Sophocles* and *Diphilus*, as we find them quoted by *Justine Martyr* and *Clemens Alexandrinus*. Neither yet were these the first Inventers and Broachers of this Opinion, but they received it by Tradition from their Forefathers, and look'd upon it as an Oracle and Decree of Fate. *Ovid* speaks of it as such in the first of his *Metamorphosis*;

Esse

Esse quoque in fatis reminiscitur, affore tempus,
Quo mare, quo tellus, correptáque regia cœli
Ardeat, & mundi moles operosa laboret.

——— Besides by Doom
Of certain Fate, he knew the time should come,
When Sea, Earth, ravisht Heaven, the curious Frame
Of this Worlds Mass should shrink in purging Flame.

And *Lucan.* * * Lib. 7.

Hos Cæsar, populos si nunc non usserit ignis,
Uret cum terris, uret cum gurgite ponti:
Communis mundo superest rogus ossibus Astra
Misturus. ———

If now these Bodies want their Fire and Urn,
At last with the whole Globe they'll surely burn;
The World expects one general Fire: and Thou
Must go where these poor Souls are wandring now.

Now though some are of an Opinion that by *Fata* here are to be understood the *Sibylline*

Oracles, and to that purpose do alledge some Verses out of those extant under that Title, as *Lactantius* in his Book *De ira Dei*, cap. 23.

Καί ποτε τὴν ὀργὴν θεὸν οὐκέκ πραΰνοντα,
Ἀλλ' ἐξεμβρίθοντα, καὶ ἐξολύοντά τε γένναν
Ἀνθρώπων ἅπασαν ὑπ' ἐμπρησμοῦ πέρθοντα.

And in another place there is mention made of a River of Fire that shall descend from Heaven, and burn up both Earth and Sea.

Tunc ardens fluvius cælo manabit ab alto
Igneus, atq; locos consumet funditus omnes,
Terrámq;, Oceanúmq; ingentem, & cærulæ ponti,
Stagnáq;, tum fluvios, fontes, Ditémq; severum,
Cælestémque polum, cæli quoque lumina in unum
Fluxa ruent, formâ deletâ prorsus eorum,
Astra cadent, etenim de cælo cuncta revulsa.

From Heaven then shall flaming Rivers flow,
And quite disorder all things here below;
The Whole shall melt into one single Mass,
All forms destroy'd, into old Chaos pass.

Ye

Yet becauſe the Verſes now extant under the Name of *Sibylline Oracles* are all ſuſpected to be falſe and *pſeudepigrapha*; and many of them may be demonſtrated to be of no greater Antiquity than the Emperor *Antoninus Pius* his Reign: and becauſe it cannot be proved, that there was any ſuch thing in the Ancient genuine *Sibylline Oracles*; I rather think, (as I ſaid before) that it was a Doctrine of Ancient Tradition, handed down from the firſt Fathers and Patriarchs of the World. *Joſephus* in his *Antiquities* runs it up as high as *Adam*; from whom *Seth* his Son received it; his Father, ſaith he, fore telling him, ἀφανισμὸν τῶν ὅλων ἔσεσθαι, τὸν μὲν κατ' ἰσχὺν πυρὸς, τὸν δ' αὖ βίαν καὶ πλῆθος ὕδατος. That there ſhould be a Deſtruction of the Univerſe, once by the violence of Fire, and again by the force and abundance of Water; in conſequence whereof he erected two Pillars, one of Brick, which might endure the Fire, and another of Stone, which would reſiſt the Water; and upon them engraved his Aſtronomical Obſervations, that ſo they might remain to Poſterity: And one of theſe Pillars he ſaith, continued in *Syria* until his days. Whether this Relation be true or not, it may thence be collected, that this was an Univerſal Opinion, received by Tradition, both among *Jews* and *Gentiles*,

That

That the World ſhould one day be conſume by Fire. It may be proved by good Autho rity, that the Ancient *Gaules*, *Chaldæans* an *Indians* had this Tradition among them which they could not receive from th *Greek* Philoſophers or Poets, with whom they had no entercourſe; but it muſt in al probability be derived down to both from the ſame Fountain and Original; that is from the firſt Reſtorers of Mankind, *Noa* and his Sons.

I now proceed to the Third Particul propoſed in the beginning; that is, to giv anſwer to the ſeveral Queſtions concernin the Diſſolution of the World.

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CHAP. V.

he first Question concerning the World's Dis-solution, Whether there be any thing in Na-ture that may probably cause or argue a future Dissolution? Three probable Means propounded and discussed.

SECT. I.

he Waters again naturally overflowing and covering the Earth.

THE First Question is, Whether there be any thing in Nature, which may ove and demonstrate, or probably argue d infer a future Dissolution? To which I swer, That I think there is nothing in ature which doth necessarily demonstrate uture Dissolution: but that Position of the *ripatetick* Schools may, for ought I know, true Philosophy, *Posito ordinario Dei con-rsu mundus posset durare in æternum. Sup-sing the ordinary concourse of God* [with cond Causes] *the World might endure for er.* But though a future Dissolution by Natural

Natural Cauſes, be not demonſtrable; ſome poſſible, if not probable, Accidents th are, which, if they ſhould happen, might fer ſuch a Diſſolution. Thoſe are Four, T Poſſibility of

1. The Waters again overflowing and vering the Earth.

2. The Extinction of the Sun.

3. The Eruption of the *Central Fire* cloſed in the Earth.

4. The Dryneſs and Inflammability of Earth under the Torrid Zone, and the Er tion of all the *Vulcano*'s at once.

But before I treat of theſe, it will not amiſs, a little to conſider the old Argum for the Worlds Diſſolution, and that is, daily Conſeneſcence and Decay: which, i can be proved, will in proceſs of time, ceſſarily infer a Diſſolution. For as the poſtle ſaith in another caſe, *That which cayeth and waxeth old is ready to va away*, Heb. 8. 13. That which continu waſtes, will at laſt be quite conſume that which daily grows weaker and weak will in time loſe all its force. So the A and Stature and Strength of Man, and other Animals, every Generation decreaſ they will in the end come to nothing. A that all theſe, and all other things do ceſſively diminiſh and decay in all Natu

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rfections and Qualities, as well as Moral, th been the received Opinion, not only of e Vulgar, but even of Philoſophers emſelves from Antiquity down to our nes. *Plin. Nat. Hiſt.* lib. 7. c. 16. *In plem autem cuncto mortalium generi minorem dies menſuram ſtaturæ propemodum obſervav: raroſque patribus proceriores conſumente ertatem ſeminum exuſtione; in cujus vices nc vergat ævum.*

Terra malos homines nunc educat atque pu fillos. Juvenal. Sat.

nd *Gellius* Noct. Att. lib. 3. c. 10. *Et nc quaſi jam mundo ſeneſcente rerum atque minum decrementa ſunt.* I might accumute places out of the Ancients and Moderns this purpoſe, but that hath been already one by others.

But this Opinion, how general ſoever it as formerly, was inconſiderately and without ſufficient ground, taken up at firſt; and fterwards without due examination embraed and followed; as appears by Dr. *Hakeil's Apology*, wherein it is ſo fundamenlly confuted; that it hath ſince been reected by all conſiderate Perſons. For that Author hath at large demonſtrated, that neiher the pretended decay of the Heavenly Bodies

Bodies in regard of Motion, Light, Heat Influence; or of any of the Elements: ther the pretended decay of Animals, particularly and eſpecially of Mankind, regard of Age and Duration, of Stren and Stature, of Arts and Wits, of Mann and Converſation, do neceſſarily infer decay in the World, or any tendency to Diſſolution. The only Objection aga this Opinion, is the Longævity of the *A diluvian* Patriarchs, and of ſome alſo (I m the firſt) of the *Poſtdiluvian*. For imm ately after the Flood the Age of Man gradually decreaſe every Generation in gr proportions; ſo that had it continued ſo to at that rate, the Life of Man had ſoon c to nothing. Why it ſhould at laſt ſettle Threeſcore and Ten Years, as a mean Ter and there continue ſo many Ages, witho any further Change and Diminution, is, confeſs, a Myſtery too hard for me to reve However, there muſt be a great and ext ordinary Change at the time of the Floo either in the Temperature of the Air, Quality of the Food, or in the Temper a Conſtitution of the Body of Man, which duced this decrement of Age. That t Temper and Conſtitution of the Bodies the *Antediluvians* was more firm and d rable than that of their Poſterity after t

Floo

Flood; and that this Change of the Term of Life was not wholly to be attributed to Miracle, may both be demonſtrated from the gradual decreaſe of the Age of the *Poſtdiluvians*. For had it been miraculous, why ſhould not the Age of the very firſt Generation after the Flood have been reduced to that Term? And what account can we give of their holding out for ſome Generations againſt the inconveniencies of the Air, or deteriority of Diet, but the ſtrength and firmneſs of their Conſtitutions? which yet was originally owing to the Temperature of the Air, or Quality of their Diet, or both; ſeeing a Change in theſe (for there was no other viſible Cauſe) did by degrees prevail againſt, and impair it. What influence the lying ſo long of the Water upon the Earth might have upon the Air and Earth, in changing them for the worſe, and rendring them more unfit for the maintenance and continuation of Humane Life, I will not now diſpute. But whatever might be the Cauſe of the Longævity of the *Antediluvians*, and the contracting of the Age of the *Poſtdiluvians*, it is manifeſt, that the Age of theſe did at the laſt ſettle, as I ſaid, at or about the Term of Threeſcore and Ten, and hath there continued for Three Thouſand Years without any diminution.

I pro-

I proceed now to the Accidents which might poſſibly, in proceſs of Time, infer a Diſſolution of the World.

1. The poſſibility of the Water, in proceſs of Time again overflowing and covering the Earth.

For, Firſt of all, The Rains continually waſhing down and carrying away Earth from the Mountains, it is neceſſary, that as well the height as the bulk of them ſhould anſwerably decreaſe; and that they do ſo, is evident in Experience. For, as I have elſewhere noted, I have been informed by a Gentleman of good Credit, that whereas the Steeple of *Craich* in the *Peak* of *Derbyſhire* in the memory of ſome Old Men then living [1672.] could not have been ſeen from a certain Hill lying between *Hopton* and *Wirkſworth*, now not only the Steeple, but a great part of the Body of the Church may from thence be ſeen; which comes to paſs by the ſinking of a Hill between the Church and place of view: a parallel example whereto the Learned Dr. *Plot* gives us, in a Hill between *Sibbertoft* and *Haſleby* in *Northamptonſhire*, *Hiſt. Nat. Stafford. p.* 113. And thus will they continue to do ſo long as there fall any Rains, and as they retain any declivity, that is, till they be levelled with the Plains.

2. By

2. By reason of the abundance of Earth thus washed off the Mountains by Shots of Rain, and carried down with the Floods to the Sea; about the out-lets of the Rivers, where the violent Motion of the Water ceases, settling to the bottom, and raising it up by degrees above the Surface of the Water, the Land continually gains upon, and drives back the Sea: The *Egyptian Pharos* or Light-house of Old Time stood in an Island a good distance from Land, which is now joyned to the Continent, the interjacent *Fretum* having been filled up by the Sill brought down by the River *Nilus* in the time of the Flood subsiding there.* Indeed the Ancient Historians do truly make the whole Land of *Egypt* to have been δῶρον πόλαμοῦ, the Gift of the River, and by this means gained from the Sea. *Seneca* in the Sixth Book of his *Nat. Quest. chap.* 26. gives this account, *Egyptus ex limo tota concrevit. Tantum enim (si Homero fides) aberat à continenti Pharos, quantum navis diurno cursu metiri plenis lata velis potest. Sed continenti admota est. Turbidus enim defluens Nilus, multúmque secum limum trahens, & eum subinde apponens prioribus terris, Ægyptum annuo incremento semper ultra tulit. Inde pinguis & limosi soli est, nec ulla intervalla in se habet; sed crevit in solidum arescente limo, quo pressa erat & cedens*

ſtructura, &c. That is, All *Egypt* is but a Concretion of Mud. *For* (if Homer *may be believed*) *the* Pharos *was as far diſtant from the Continent, as a Ship with full ſail could run in a days time; but now it is joyned to it. For* Nilus *flowing with troubled Waters brings down a great deal of mud and Silt and adding to it the old land, carries* Egypt *further and further ſtill by an annual increaſe. Hence it is of a fat and mudy ſoil, and hath no pores or cavities in it. And this reaſon he gives why it is not troubled with Earthquakes.* Thus by reaſon of the great Rivers, *Po, Atheſis, Brenta,* and others, which empty themſelves into the *Lagune*, or Shallows about *Venice* in *Italy*, and in times of floods bring down thither great ſtore of earth, thoſe *Lagune* are in danger to be in time atterrated, and with the City ſituated in the midſt of them, added to the firm Land. Thus in the *Carnarg*, or Iſle that the River *Rhoſne* makes near *Arles* in *Provence*, there hath been ſo much lately gained from the Sea, that the Watch-tower had, in the memory of ſome Men, been removed forward three times, as we were there informed. And it ſeems to me probable, that the whole *Low Countreys* were thus gained from the Sea. For *Varenius* in his Geography tells us, That ſinking a Well at *Amſterdam*, a

near an hundred foot depth, they met with a bed or floor of Sand and Cockle-ſhells; whence it is evident, one would think, that of old time the bottom of the Sea lay ſo deep, and that that hundred foot thickneſs of Earth above the Sand, aroſe from the Sediments of the Waters of thoſe great Rivers, the *Rhine*, *Scheld*, *Maes*, &c. which thereabouts emptied themſelves into the Sea, and in times of Floods brought down with them abundance of Earth from the upper grounds. The ſame Original doubtleſs had that great Level of the Fens, running through the Iſle of *Ely*, *Holland* in *Lincolnſhire* and *Marſhland* in *Norfolk*. That there hath been no ſmall quantity of Earth thus brought down, appears alſo in that along the Channels of moſt great Rivers, as for example, the *Thames* and *Trent* in *England*, eſpecially near their Mouths or Out-lets, between the Mountains and higher grounds on each ſide, there are large Levels and Plains; which ſeem to have been originally part of the Sea, raiſed up, and atterrated by Earth and Silt brought down by thoſe Rivers in great Floods.

Now the Rain thus continually waſhing away, and carrying down Earth from the Mountains and higher Grounds, and raiſing up the Vallies near the Sea, as long as there

is any deſcent for the Rivers, ſo long will they continue to run, carry forward the low ground, and ſtreighten the Sea, which alſo by its working, by reaſon of the declivity, eaſily carries down the Earth towards the lower and middle part of its Channel [*alveus*] and by degrees may fill it up. Moreover, the Clouds ſtill pouring down Rain upon the Earth, it will deſcend as far as there is any declivity; and where that fails, it will ſtagnate, and joyning with Sea, cover firſt the skirts of the Earth, and ſo by degrees higher and higher, till the Whole be covered.

To this we may add, that ſome aſſiſtance toward the levelling of the Mountains, may be contributed by the Courſes and Cataracts of ſubterraneous Rivers waſhing away the Earth continually, and weakning their foundations, ſo by degrees cauſing them to founder, ſubſide, and fall in. That the Mountains do daily diminiſh, and many of them ſink; that the Vallies are raiſed; that the Skirts of the Sea are atterrated, no man can deny. That theſe things muſt needs in proceſs of time have a very conſiderable and great effect, is as evident; which what elſe can it be, then that we have mentioned?

Varenius in his Geography putting the Queſtion, Whether the Ocean may again come

come to cover all the Earth, and make an Univerſal Deluge; anſwers, That we may conceive a way how this may naturally come to paſs. The manner thus, Suppoſing that the Sea by its continual working doth undermine and waſh away the Shores and Cliffs that are not rocky, and carry the Earth thereof down towards the middle, or deepeſt parts of its Channel, and ſo by degrees fill it up. By doing this perpetually, it may, in a long ſucceſſion of Time, carry all away; and it ſelf cover the whole Earth. That it doth thus ſubvert and waſh away the Shores in many places is in experience true. About *Dort* in *Holland* and *Dullart* in *Frieſland*, and in *Zealand* many Villages, ſome ſay Three Hundred, have been drown'd by the encroachments of the Sea, as ſome of their Towers and Steeples ſtill extant above the Waters do teſtifie. On the *Tuſcan* Shore, *Kircher* tell us, that not far from *Ligorn* he himſelf had obſerved a whole City under Water, that had been in former times drown'd by the Inundation of the Sea. And over againſt *Puteoli* in the *Sinus* of *Baia*, he tells us, that in the bottom of the Sea, there are not only Houſes, but the traces and footſteps of the Streets of ſome City manifeſtly diſcernable. And in the County of *Suffolk*, almoſt the whole Town of *Donewick*,

with the adjacent Lands, hath been undermined and devoured by the Sea.

This waſhing away of the Shores is, I conceive, in great meaſure to be attributed to the fore-mentioned ſtreightning and cutting ſhort of the Sea, by the Earth and Silt that in the times of Floods are brought down into it by the Rivers. For the Vulgar have a Proverbial Tradition, *That what the Sea loſes in one place, it gains in another.* And both together do very handſomly make out and explain, how the Earth in a Natural way, may be reduced to its primitive ſtate in the Creation, when the Waters covered the Land. But this according to the leiſurely proceedings of Nature, would not come to paſs in many Ages, I might ſay, in Ages of Ages: Nay, ſome think, that thoſe vaſt Ridges and Chains of Mountains, which run through the middle of the Continents are by reaſon of their great height, weight and ſolidity, too great a Morſel ever to be devoured by the Jaws of the Sea. But whether they be or not, I need not diſpute, though I incline to the Negative, becauſe this is not the diſſolution the Apoſtle here ſpeaks of, which muſt be by Fire.

But I muſt not here diſſemble an Objection I ſee may be made, and that is, That the *Superficies* of the Earth is ſo far from being depreſſed

depreſſed, that it is continually elevated. For in ancient Buildings, we ſee the Earth raiſed high above the foot of them. So the *Pantheon* at *Rome*, which was at firſt aſcended up to by many [eight] Steps, is now deſcended down to by as many. The Baſis and whole Pedeſtal of *Trajan*'s Pillar there was buryed in the Earth.

Dr. *Tancred Robinſon* in the year 1683. obſerv'd in ſome places, the Walls of old *Rome*, to lye Thirty and Forty Foot under ground; ſo that he thinks the greateſt part of the Remains of that Famous Ancient City is ſtill buried, and undiſcovered; the prodigious heaps of Ruines and Rubbiſh incloſed within the Vineyards and Gardens being not half dig'd up or ſearch't, as they might be, the tops of Pillars peeping up and down. And in our own Country we find many Ancient *Roman* Pavements at ſome depth under ground. My Learned and Ingenious Friend Mr. *Edward Lloyd*, not long ſince inform'd of one, that himſelf had ſeen buried deep in the Church-yard at *Wycheſter* in *Gloceſterſhire*. Nay, the Earth in time will grow over and bury the Bodies of great Timber Trees, that have been fallen, and lye long upon it.

To which I anſwer, As to Buildings, 1. The Ruines and Rubbiſh of the Cities where-

in they ſtood, might be conceived to bury them as deep as they now lye under ground. And by this means it's likely the *Roman* Pavements we find, might come to be covered to that height we mentioned. For that the places where they occur, were anciently *Roman* Towns ſubverted and ruined, may eaſily be proved; as particularly in this we mention'd, from the Termination *Cheſter*; whatever Town or Village hath that addition to its Name having been anciently a *Roman* Town or Camp: *Cheſter* ſeeming to be nothing but *Caſtra*.

2. It is to be conſider'd, That weighty Buildings do in time overcome the reſiſtance of the foundation, unleſs it be a ſolid Rock; and ſink into the ground.

Nay, the very ſoft Water, lying long upon the bottoms of the Sea or Pools, doth ſo compreſs and ſadden them by its weight, that the very Roads that are continually beaten with Horſes and Carriages, are not ſo firm and ſad: And in the Sea, the nearer you dig to the Low Water Mark, ſtill the ſadder and firmer it is: and it's probable ſtill, the further the ſadder; which ſeems to be confirmed by the ſtrong fixing of Anchors. [This firmneſs of the Sand, by the weight of the incumbent Water, the people inhabiting near the Sea are ſo ſenſible of, that I have

have ſeen them boldly ride through the Water croſs a Channel three Miles broad, before the Tide was out, when in ſome places it reacht to the Horſes Belly.] A ſemblance whereof, we have in Ponds, which being newly dig'd, the Water that runs into them, ſinks ſoon into the Earth, and they become dry again, till after ſome time, by often filling, the Earth becomes ſo ſolid, through the weight of the Water, that they leak no more, but hold Water up to the brink. *Wittie Scarborough Spaw, p. 86.*

What force a gentle, if continual preſſure hath, we may underſtand alſo by the Roots of Trees, which we ſee will ſometimes pierce through the Chinks of Stone Walls, and in time make great Cracks and Rifts in them; nay, will get under their very foundations. The tender Roots of Herbs overcome the reſiſtance of the ground, and make their way through Clay or Gravel. By the by, we may here take notice, that one reaſon why plowing, harrowing, ſifting, or any comminution of the Earth renders it more fruitful, is, becauſe the Roots of Graſs, Corn, and other Herbs can, with more facility, creep abroad, and multiply their Fibres in the light and looſe Earth.

That the rotting of Graſs and other Herbs upon the ground, may in ſome places raiſe the

the *Superficies* of it, I will not deny; th
is, in Gardens and Encloſures, where t
ground is rank, and no Cattel are admitt
to eat off the Fogg or long Graſs: but elſewh
the raiſing of the Superficies of the Ear
is very little and inconſiderable; and no
at all, unleſs in level grounds, which ha
but little declivity: For otherwiſe the So
would by this time have come to be of a ver
great depth, which we find to be but ſhallow
Nor do I think, that ſo much as the Trunk
of fall'n Trees, are by this means covered
but rather, that they ſink by their ow
weight, in time overcoming the reſiſtance o
the Earth, which without much difficult
yields, being ſoaked and ſoftned by th
Rains inſinuating into it, and keeping i
continually moiſt in Winter time. But
theſe Buildings be ſituate in Valleys, it i
clear, that the Earth brought down from th
Mountains by Rain, may ſerve to land then
up. Again, the Superficies of the Earth
may be raiſed near the Sea Coaſt, by th
continual blowing up of Sand by the Winds
This happens often in *Norfolk*, and in *Corn-
wall*, where I obſerved a fair Church, *viz.* that
of the Pariſh called *Lalant*, which is the
Mother Church to St. *Ives*, and above two
Miles diſtant from the Sea, almoſt covered
with the Sand; little being extant above it, but
the

he Steeple and ridge of the Roof. Nay, a reat part of St. *Ives* it ſelf lyes buried in he Sand : and I was told there, that in ne night there had been a whole Street of Houſes ſo covered with Sand, that in the morning they were fain to dig their way out of their houſes through it. All along the Weſtern Shoar of *Wales*, there are great Hills of Sand, thus blown up by the Wind. We obſerved alſo upon the Coaſt of *Flanders* and *Holland* the like Sandy Hills or Downs. But there are not many places liable to this Accident, *viz.* where the bottom of the Sea is Sandy, and where the Wind moſt frequently blows from off the Sea; where the Wind ſets from the Land toward the Sea this happens not; where it is indifferent, it muſt in reaſon carry off as much as it brings on, unleſs other Cauſes hinder.

A Digreſsion concerning the D luge in the Days of Noah.

BEfore I proceed to the Second Partic lar, being as it were, led and invit thereto by what hath been ſaid, I ſhall mak a Digreſſion, to diſcourſe a little concerni the general Deluge in the days of *Noah*. ſhall not enlarge much upon it, ſo as t take in all that might be ſaid, but confi my ſelf to Three Heads. 1. I ſhall confir the Truth of the Hiſtory of the Deluge r corded in the Scripture, by the Teſtimoni of ſome ancient Heathen Writers. 2. I ſha conſider the Natural Cauſes or Means wher by it was effected. 3. I ſhall enquire co cerning the Conſequents of it, what conſi derable effects it had upon the Earth.

Firſt then, I ſhall produce ſome Teſtimo nies of Ancient Heathen Writers concernin the Deluge.

The Firſt ſhall be that of *Beroſus*, recor ded by *Joſephus*, in the fifth Chapter of hi firſt Book of *Jewiſh Antiquities*, Βηρωσὸς ὁ Χαλδαῖος διηγέμενος τὰ περὶ τὸν κατακλυσμὸν ὕστ

ν πυ διεξίεισι, &c. That is, *Berosus* the
aldæan relating the Story of the Deluge
ites thus. It is reported, that there is
ne part of the Vessel [the Ark] still re-
ining at the Mountain of the *Gordyæans*;
l that certain persons scraping off the *Bi-*
nen or Pitch, carry it away; and that
n make use of it for Amulets, to drive
ay Diseases.

A Second Testimony the same *Josephus*
ords us in the same place, and that is, of *Ni-*
us Damascenus; who, saith he, gives us
History of the [Ark and Deluge] in
se words, About *Minyas* in *Armenia* there
a great Mountain called *Baris*; to which
s reported, that many flying in the time of
Deluge were saved, & that a certain person
s carried thither in an Ark, which rested
the top of it; the reliques of the Tim-
whereof were preserved there a long
e. Besides these, *Josephus* tells us in the
e place, that *Hieronymus* the *Egyptian*, who
ote the *Phœnician* Antiquities, and *Mna-*
s, and many others, whose words he al-
ges not, make mention of the Flood.

Eusebius superadds two Testimonies more.
e one of *Melon* to this effect. There de-
ted from *Armenia* at the time of the De-
e, a certain man, who together with his
s had been saved; who being cast out of
his

his House and Possessions, was driven a
by the Natives. This man passing over
intermediate Region, came into the mo
tainous part of *Syria*, that was then d
late. This Testimony makes the Del
Topical, and not to have reached
menia.

The other is of *Abydenus* an ancient W
ter in the same *Eusebius*, *Præpar. Eva*
lib. 9. *cap.* 4. Μεθ' ὃν ἄλλοι τε ἦρξαν, ὧ
σιθρος, ᾧ δὴ κρόνος προσημαίνει μὲν ἔσεσθαι
θος ὄμβρων Δεσίου πέμπτῃ ἐπὶ δέκα, &c.
ter whom others reigned, and then *Sisith*
(so he calls *Noah.*) To whom *Saturn* fo
told, that there should be a great Flood
Waters upon the Fifteenth Day of
Month *Desius*; and commanded him to
all Writings [or whatever was commi
to Writing] in *Heliopolis* of the *Syppari*
Which *Sisithrus* as soon as he had perform
presently sailed away to *Armenia*, wh
what God had predicted to him, imm
ately came to pass [or came upon hi
The third day after the Waters ceased,
sent forth Birds, that he might try whe
they could espy any Land uncovered
Water. But they finding nothing but
and not knowing whither to betake th
selves, returned back to *Sisithrus*. In
manner, after some days he sent out ot

with like ſucceſs. But being ſent out the third time, they returned with their feet fouled with Mud. Then the Gods caught up *Siſithrus* from among men: But the Ship remained in *Armenia*, and its Wood afforded the Inhabitants Amulets to chaſe away many Diſeaſes. Theſe Hiſtories accord with the Scripture as to the main, of the being of a Flood, and *Noah* eſcaping out of it; only they adulterate the Truth, by the admixture of a deal of fabulous ſtuff.

Cyril in his firſt Book againſt *Julian*, to prove the Deluge, alledges a paſſage out of *Alexander Polyhiſtor*. *Plato* himſelf (ſaith he) gives us an obſcure intimation of the Deluge, in his *Timæus*, bringing in a certain *Egyptian* Prieſt, who related to *Silon* out of the Sacred Books of the *Egyptians*, that before the particular Deluges known and celebrated by the *Grecians*, there was of old an exceeding great Inundation of Waters, and devaſtation of the Earth; which ſeems to be no other than *Noah*'s Flood.

Plutarch in his Book *De Solertia Animalium* tells us, That thoſe who have written of *Deucalion*'s Flood, report, that there was a Dove ſent out of the Ark by *Deucalion*, which returning again into the Ark, was a ſign of the continuance of the Flood, but flying quite away, and not returning any more,

more, was a ſign of Serenity, and that the Earth was drained.

Indeed *Ovid* and other Mythologiſts make *Deucalion*'s Flood to have been universal: and it's clear, by the Deſcription *Ovid* gives of it, that he meant the general Deluge in the days of *Noah*. And that by *Deucalion*, the Ancients together with *Ovid* * *L.2. c.6.* underſtood *Noah*; *Kircher* in his * *Arca Noe* doth well make out. Firſt, For that the Poet *Apollonius* makes him the Son of *Prometheus* in his third Book,

——— ἔνθα Προμηθεὺς
Ἰαπετιονίδης ἀγαλὸν τέκε Δευκαλίωνα.

Where *Prometheus* the Son of *Iapetus* begat the Renowned *Deucalion*. 2. *Beroſus* affirms *Noah* to have been *Scythian*. And *Lucian* in his Book *De Dea Syria* tells us, that many make *Deucalion* to have been ſo too. 3. The Scripture teſtifies, that men were generally very corrupt and wicked in the days of *Noah*. And *Andro Teius* a very ancient Writer teſtifies, that in *Deucalion*'s time there was a great abundance of wicked men, which made it neceſſary for God to deſtroy Mankind. 4. The Scripture ſaith, that *Noah* was a Juſt Man, and Perfect in his Generation. And *Ovid* ſaith of *Deucalion*, that

No

Non illo melior quiſquam, nec amantior æqui
Vir fuit, aut illâ [*Pyrrhâ* uxore ejus] *reve-*
rentior ulla Deorum.

And a little after,

Innocuos ambos, cultores numinis ambos.

5. *Apollonius* ſaith of *Deucalion*, Πρῶτος ἀνθρώπων ἐβασίλευσε, *the firſt ruled over men.* Which may very well be attributed to *Noah* the Father and Reſtorer of Mankind, whoſe right the Kingdom was. 6. The ſending out of a Dove, to try whether the Waters were abated, and the Flood gone off, is (we have ſeen) by *Putarch* attributed to *Deucalion.* 7. *Lucian* in his *Timon*, and in his Book *de Dea Syria*, ſets forth the Particulars of *Deucalion*'s, after the example of *Noah*'s, Flood. Δευκαλίων μόνος ἀνθρώπων ἐλίπετο εἰς γενεὰν δευτέραν δίκαιός τε ὢν καὶ θεοσεβὴς ἕνεκα, &c. Deucalion *was the only man that was left for a ſecond Generation, for his Prudence and Piety ſake: And he was ſaved in this manner. He made a great Ark, and got aboard it, with his Wife and Children: And to him came Swine, and Horſes, and Lions, and Serpents, and all other living Creatures, which*

the Earth maintains, according to their kind by pairs; and he received them all, and the hurt him not; for there was by Divine Inſtin a great friendſhip among them; and the ſailed together in the Ark, ſo long as the W ters prevailed. And in his *Timon* he ſaith *that* Noah *laid up in the Ark plenty of Proviſions for their ſuſtenance.*

By all this it appears, that the Notion a general Flood was every where curre among the people, eſpecially in thoſe Cou treys where the Ark reſted, and where N afterward lived. And hence it was, that *Apameans*, whether of *Meſopotamia*, or Sy or *Bythinia*, (for there were three Cities Name) coined Moneys in honour of Emperours *Septimius Severus*, and *Philip Arabs*, having on the Reverſe the Figure an Ark, with a Man and a Woman ſtandi before it; and a Man and a Woman looki out of it; and two Doves above it, one ing with a Branch of a Tree in its Mou another reſting upon it. The Figu whereof, and a Learned Diſcourſe thereup out of *Falconerius*, may be ſeen in *Kirche*

* L. 2. c. 6. * *Arca Noæ.* Which Moneys though th were coined long after our Saviour's time, a the divulgation of the Scriptures; yet bei done by Ethnicks, do ſhew that the Story the Deluge was known, and famous, a

general

generally credited among them, as being near the place where *Noah* lived and conversed after the Flood.

Howbeit I do not deny, that there was such a particular Flood in *Theſſaly*, as they call *Deucalion*'s, which happened Seven Hundred and Seventy Years or thereabouts after the general Deluge. I acknowledge alſo a more ancient Flood in *Attica* in the time of *Ogyges*, about Two Hundred and Thirty Years before *Deucalion*'s, by which the Countrey was ſo marred, that it lay waſte and uncultivated without Inhabitants for almoſt Two Hundred Years.

Other particular Deluges, and Irruptions, or Inundations of the Seas, beſides theſe, we read of in Hiſtories; which I ſhall not ſtand to enumerate. He that deſires an Account of them, may conſult Sr. *Walter Raleigh*'s Hiſtory of the World, *p.*89. Howbeit the Conſideration of them may be of uſe to us, when we ſhall come to treat of the Effects of the Flood upon the Earth. So I diſmiſs this firſt particular, and proceed to the ſecond: What were the inſtrumental Cauſes or Means of the Flood? Whether was it effected by natural or ſupernatural Means only? Whether was God no further concerned in it, than in ſo ordering ſecond

Cauſes at firſt, as of themſelves neceſſarily to bring it in at ſuch a time?

Firſt, Thoſe that hold this Deluge was altogether miraculous, and that God Almighty created Waters on purpoſe to ſerve this occaſion, and when they had done their work deſtroyed them again, diſpatch the Buſineſs, and looſe or cut the Knot in a few words. And yet this *Hypotheſis* is not ſo abſurd and precarious, as at firſt ſight it may ſeem to be. For the World being already full, there needed not, nor indeed could be any Creation of Water out of nothing, but only a Tranſmutation of ſome other body into Water. Now if we grant all natural Bodies, even the Elements themſelves, to be mutually tranſmutable, as few men doubt, and ſome think they can demonſtrate; why might not the Divine Power and Providence bring together at that time ſuch natural Agents, as might change the Air or *Æther*, or both together into Water, and ſo ſupply what was wanting in Rains and extraordinary Eruptions of Springs? To them that argue the Improbability of ſuch a change, from the great quantity of Air requiſite to the make of a little Water; it may be anſwered, That if Air, and all Bodies commixt with it, were together chan-

ged

ged into Water, they muſt needs make a bulk of Water of equal quantity with themſelves, unleſs we will grant a Peripatetical Condenſation and Rarefaction; and hold that the ſame Matter may have ſometimes a greater, ſometimes a leſſer quantity or extenſion.

This Cauſe [the converſion of Air into Water] the Learned Jeſuite *Athanaſius Kircher*, in his Book *De Arca Noæ*, alledges as the undoubted inſtrumental Cauſe or Means of the Deluge in theſe words, *Dico totum illud aereum ſpatium uſque ad ſupremam regionem aeris, præpotentis Dei virtute, in aquas, per inexplicabilem nubium coacervatarum multitudinem, quâ replebatur, converſum eſſe; cujus ubertas tanta fuit, ut Aer ſupremus cum inferiori in Oceanum commutatus videri potuerit, non naturæ viribus, ſed illius cujus voluntati & imperio cuncta ſubſunt.* That is, *I affirm, That all that Aereal ſpace that reaches up to the ſupreme Region of the Air, was, by the power of the Omnipotent God, and inſtrumentality of an inexplicable multitude of Clouds amaſſed together, wherewith it was filled, changed into Water, ſo that the upper and lower Air might ſeem to be tranſmuted into an Ocean, not by the ſtrength of Nature, but of him to whoſe Will and Power all things are ſubject.* And he is ſo confi-

* *Arcæ Noæ* l. 2. c. 4.

fident * that this Deluge, in which the Water was raiſed fifteen Cubits above the higheſt Mountains, was not, nor could be effected by natural Cauſes; but by the right hand of the Moſt High God only; that he ſaith, No man can deny it, but he who doth not penetrate, how far the power of Nature can extend, and where it is limited. To conclude, this *Hypotheſis* hath the Suffrages of moſt Learned Men. But becauſe the Scripture aſſigning the Cauſes or Means of the Inundation, makes no mention of any converſion of Air into Water, but only of the breaking up the Fountains of the Great Deep, and the opening of the Windows of Heaven, I ſuppoſe thoſe Cauſes may be ſufficient to work the Effect, and that we need not have recourſe to ſuch an Aſſiſtance.

As for thoſe that make the Deluge Topical, and reſtrain it to a narrow compaſs of Land; their Opinion is I think ſufficiently confuted by the fore-mentioned ingenious Author, to whom therefore I refer the Reader.

I ſhall not undertake the Defence or Confutation of any other *Hypotheſis*: only tell you which at preſent ſeems to me moſt probable, and that is theirs, who for a partial cauſe of the Deluge, aſſign either a change of the Center of the Earth, or a violent depreſſion

preſſion of the Surface of the Ocean, and a forcing the Waters up from the ſubterraneous Abyſſe through the Channels of the Fountains that were then broken up and opened.

Firſt then, let us conſider what Cauſes the Scripture aſſigns of the Flood; and they are two: 1. The breaking up the Fountains of the great Deep: 2. The opening of the Windows of Heaven. I ſhall firſt treat of this laſt. By the opening of the Windows of Heaven, is (I ſuppoſe) to be underſtood the cauſing of all the Water that was ſuſpended in the Air to deſcend down in Rain upon the Earth; the effect hereof here mentioned being a long continuing Rain of Forty, nay, perchance One Hundred and Fifty Days. And that theſe Treaſuries of the Air will afford no ſmall quantity of Water, may be made appear, both by Scripture and Reaſon. 1. By Scripture, which oppoſes the Waters that are above the Heavens or Firmament, to thoſe that are under them; which if they were not ἰσόῤῥοπα, and in ſome meaſure equal, it would never do. Gen. 1. 6. *God is* ſaid *to make a Firmament in the midſt of the Waters, and to divide the Waters which were under the Firmament, from the Waters which were above the Firmament.* And this was the work of a whole day, and conſe-

quently no inconſiderable thing. By the Heavens or Firmament in this place, is to be underſtood the inferiour Region of the Air, wherein the Fowls fly: who *Gen.* 1. 20. are ſaid to *fly above the Earth, in the open Firmament of Heaven*; though elſewhere it be taken for the Celeſtial Regions, wherein the Sun, and Moon, and Stars are placed.

2. The ſame may be made appear, by Reaſon grounded upon Experience. I my ſelf have obſerved a Thunder-Cloud in paſſage, to have in leſs than two hours ſpace powred down ſo much Water upon the Earth, as beſides what ſunk into the parched and thirſty ground, and filled all Ditches and Ponds, cauſed a conſiderable Flood in the Rivers, ſetting all the Meadows on flote. [And Dr. *Wittie* in his *Scarborough Spaw* tells us of great Spouts of Rain that ordinarily fall every year ſome time or other in Summer, that ſet the whole Countrey in a Flood.] Now had this Cloud, which might, for ought I know, have moved Forty Miles forward, ſtood ſtill and emptied all its Water upon the ſame ſpot of ground it firſt hung over, what a ſudden and incredible Deluge would it have made there? and yet what depth or thickneſs of Vapours might remain uncondenſed in the Air above this Cloud, who knows? Now it is to

be

be considered, that not only the Air above the Dry Land, but also all that covers the whole Ocean, is charged with Vapours, which are nothing else but diffused Water: all which was brought together by Winds, or what other Means seem'd good to God, and caused to distil down in Rain upon the Earth. And you may easily guess that it was no small quantity of Water that was supplyed this way, in that it sufficed for a Rain that lasted more than Forty Days, as I shall afterwards shew, if I understand the Text a right. And that no ordinary Rain neither, but Catarracts or Spouts of Water; for so the *Septuagint* interprets the words, Καὶ αἱ καταῤῥάκται τῦ ὐρανῦ ἠνεώχθησαν. *And the Catarracts or Spouts of Heaven were opened.*

I return now to the first Cause or Means of the *Deluge* assigned by the Scripture, and that is the *breaking up of all the fountains of the great Deep.* By the *great Deep* in this place, I suppose, is to be understood the Subterraneous Waters, which do and must necessarily communicate with the Sea. For we see, that the *Caspian* and *Mediterranean* Seas, to mention no others, receive into themselves many and great Rivers, and yet have no visible Out-lets; nay, this latter, receives also abundance of Waters from the great Ocean,

Ocean, running in at the Streights of Gi*braltar*: and therefore by Subterraneous Paſſages, muſt needs diſcharge their Water into the Abyſs of Waters under the Earth, and by its intervention into the Ocean again. By the breaking up of the Fountains of the *Great Deep*, is I conceive meant, the making great Iſſues and Apertures for theſe Subterraneous Waters to ruſh out. You will ſay how could that be, ſith the Water keeps its level, and cannot aſcend to a greater height above the common Center, than the Superficies of the Sea is, much leſs force its way, remove Obſtacles, and break open Paſſages?

I anſwer, According to them that hold that all Rivers come from the Sea by Subterraneous Paſſages, it is no more than daily happens. For they muſt needs grant, that the Water in the Subterraneous Channels is raiſed as far above the level of the Ocean as are the Heads and Fountains of great Rivers. Which conſidering the height of their firſt Springs up the Mountains, the length of their Courſes, and ſwiftneſs of their Streams for a great part of the way, is very conſiderable, a conſtant declivity being neceſſary to their deſcent. And therefore I can by no means aſſent to the Learned Doctor *Plot*, (if I underſtand him aright) * *That the Valleys are as much below the Surface*

* *Hiſt. Nat. Staffordſ.* p. 79.

of the Sea, as Mountains are above it. For how then could Rivers deſcend down to the Sea through thoſe Valleys; the Sea would rather run into them, and make *Sinuſes*; or elſe, if they were encloſed, the Water would ſtagnate there, and make Pools. If this be done by way of Filtration (which ſeems to be the moſt likely Means of raiſing the Water) I do not ſee, but theſe Filtres may ſuck up the whole Ocean; and, if Apertures and Out-lets large enough were made, powre it out upon the Earth in no long time. But I cannot be fully reconciled to this Opinion, though it hath great Advocates, eſpecially the fore-mentioned very Learned and Ingenious Perſon Doctor *Robert Plot.* I acknowledge Subterraneous Waters: I grant a Confluence and Communication of Seas by under-ground Channels and Paſſages. But this inferiour conſtant Circulation and perpetual Motion of Water ſeems to me not yet ſufficiently proved and made out. I think that the Patrons and Abettors of this Opinion, have not ſatisfactorily demonſtrated, how it is, or can be performed. To what is offered concerning the Center of Gravity being nearer to our Continent, by reaſon of the Preponderancy of the Earth, and the Waters lying as it were on an heap in the other Hemiſphere, I anſwer,

anſwer, 1. That though Earth be inde
ſpecifically heavier than Water, yet conſi
dering that Water is a cloſe imporous Bod
(I underſtand greater Pores) but the Ear
every where full of great and ſmall Pore
and Cavities, I know not but taking a bul
thereof equal to the Ocean, the Water ma
be as heavy as it. 2. In the preſent terra
queous Globe, the *New World* which lye
between the two great Seas, and almoſt op
poſite to our Continent, doth in ſome me
ſure counterpoiſe the Old, and take off
great part of the advantage, which by re
ſon of its Preponderancy, it might othe
wiſe have. Moreover, I am of Mr. *Brierwood*
Opinion, that there may be, and is a va
Continent toward the Southern Pole oppo
ſite to *Europe* and *Aſia*, to counterpoiſe the
on that ſide; nay, I do verily believe, tha
the Continents and Iſlands are ſo proport
onably ſcattered and diſpoſed all the Worl
over, as if not perfectly and exactly, yet ve
ry nearly to counterballance one another;
that the Globe cannot walter or reel toward
any ſide: and that the Center of the conve
Superficies of the Sea, is the true Center o
the whole Terreſtrial Sphere, both of Motio
and of Gravity. 3. The Sea being no where
above a *German* Mile deep, (for which we
have good Authority) in moſt places no
hal

alf ſo much, taking then as a middle term alf a Mile. Suppoſe it every where half Mile deep, (the Earth below the Sea, we ave no reaſon to ſuppoſe of different Gra-ity) What proportion hath this two Miles hickneſs of Water, to the whole Terraque-us Globe, whoſe Semidiameter, is by the ccount of Mathematicians Three Thouſand our Hundred and Forty *Italian* Miles. What ittle advantage then can it have of the arth oppoſite to it, in point of Prepondeancy? 4. Granting the Center of Gravity hould be nearer our Continent: The Cen-er being the loweſt place, and the Water fluid Body, unleſs ſtopped, where it found declivity, it would deſcend as near as it ould to it, without any regard of the arths Preponderancy. And though we hould grant, that the drineſs of the Shoars might ſtop it, and cauſe it to lye on a heap, yet would it run up the Channels of Rivers, till it came as near as poſſible to the Center of Gravity. Indeed the Rivers themſelves could not deſcend, but muſt run towards the middle of the Continent. All this I think will follow from this *Hypotheſis* by as good conſequence, as the Waters being forced through the Subterraneous Channels out at the Springs. Again, I do not peremptorily affirm, that all Fountains do proceed

proceed from Rain; only I contend, t
Rain may ſuffice to feed them, and that p
bably it doth feed ordinary Springs. T
the Ingenious *French* Author doth well
monſtrate in the River *Seine*, and I belie
is demonſtrable in moſt other Rivers.

The little Brook that runs near my D
ling, and hath its Head or Source not ab
Four or Five Miles off, where there is
extraordinary Eruption of Water, all al
its Courſe receives ſmall Rivulets on b
ſides; which though they make a conſ
rable Stream at Five Miles diſtance from
Fountain-head, yet ſingly are ſo ſmall, t
they may very well be conceived to d
down from the higher Grounds that
about them. And taking the whole to
ther, it is a very conſiderable length
breadth of Land, that contributes to the ma
tenance of this little River. So that it m
eaſily be believed, that all its Water o
its original to Rain: Eſpecially if it be co
dered further, that in Winter-time after t
Rains are fallen, the Ground ſated, and t
Ditches full, the Stream of this River dur
the whole Winter following, is for the m
part, unleſs in Froſts, double of what it w
in Summer. Which Exceſs can proce
from nothing but Rain; at leaſt it wou
be raſhneſs to aſſign any other Cauſe, wh
the

there is so obvious and manifest an one. Moreover, that Rain affords no small quantity of Water, is clear also from great Floods, wherein it might be proved, that in few days there descends more Water than would supply the ordinary Stream for a good part of Summer. Now to compare great things with small: I have seen many of the biggest Rivers in *Europe*, the *Danow*, *Rhine*, *Rhosne* and *Po*; and when I consider the length of their courses, the multitude of considerable Rivers and Brooks they receive; and all these from their first rise, made up by degrees by little Rivulets and Gills, like my neighbouring Brook; the huge Mountains and vast extent of higher Grounds they drain: To me it seems (and I have seen all their Streams near their Out-lets, except the *Danows*, and it's after Four Hundred Miles descent) that they do not bear any greater proportion to the Rivers and Rivulets they receive, and the immense Tracts of Land that feed them, than my Brook doth to its small Rills and compass of Ground.

But in this, I confess, I do not descend to the niceness of Measuring and Calculation, but satisfie my self with rude conjectures, taking my measures, as the *Cestrians* say, by the Scale of the Eye.

It

It will here be objected, *That the Rain never ſinks above Ten Foot deep at moſt into the Earth, and therefore cannot ſupply the Springs.*

Anſw. This indeed, if it were true, would much enervate, nay, quite overthrow our Opinion: And therefore we muſt fortifie this Point, and effectually demonſtrate beyond all poſſibility of denyal or contradiction, That Rain-water doth ſink down and make its way into the Earth, I do not ſay Ten, or Twenty, nor Forty, but an Hundred, nay, Two or Three Hundred Foot or more.

Firſt then, in *Pool-hole* in the *Peak* in *Darbyſhire*, there are in ſome places conſtant droppings and deſtillations of Water from the Roof: under each of which (to note that by the by) riſes up a Stone Pillar, the Water precipitating ſome of thoſe ſtony Particles which it had waſhed off the Rocks in paſſing through their Chinks. Theſe droppings continue all the Summer long. Now it ſeems clear to me, that the Rain-water making its way through the Veins and Chinks of the Rocks above it, and yet but ſlowly by reaſon of the thickneſs of the Mountain, and ſtraitneſs of the paſſages, ſupplies that dropping all the year round; at leaſt this is much more rational than any diffe-

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rent *Hypotheſis*. If the Water diſtills down faſter in Winter time and wet Weather, than it doth in Summer (which I forgot to ask) the experiment would infallibly prove our Aſſertion. In confirmation of this Argument, *Albertus Magnus* (as I find him quoted in Dr. *Wittie's Scarborough Spaw*) tells us, *That at the bottom of a ſolid Rock One Hundred and Thirty Fathoms deep he ſaw drops of Water diſtilling from it in a rainy ſeaſon.*

Secondly, It is well known, and atteſted to me by the people at *Buxton* when I was there, that out of the Mouth of the ſame *Pool-hole*, after great and long continuing Rains, a great Stream of Water did uſually iſſue forth. And I am ſure it muſt make its way through a good thickneſs of Earth or Rocks, before it could come in there.

Thirdly, What becomes of all the Water that falls on *Newmarket Heath* and *Gogmagog* Hills, I preſume alſo *Salisbury-Plain*, and the like Spungy Grounds all Winter long, where we ſee very little run off any way? It muſt needs ſink into the Ground more than Ten Foot deep.

Fourthly, Many Wells, whoſe Springs lye at leaſt Twenty Foot deep, we find by experience, do often fail in great Droughts in Summer time.

Fifthly, In Coal Delfs and other Mines, wet Weather the Miners are many times drown'd out (as they phrase it,) though no Water runs down into the Mouths of their Pits or Shafts. Nay, Dr. *Wittie* tells us in his *Description of the Vertues of the Scarborough Spaw*, pag. 105. 'That after great Inundations of Rain, the Miners find the Water frequently distilling through the solid Earth upon their Heads; whereas in Summer or dry Seasons, they find no interruption from thence at all.

Further, to confirm this Particular, I wrote to my Honoured Friend Sr. *Thomas Willughby* Baronet, desiring him to examine his Colliers concerning it, and send me word what report they make: and from him I received this account. *If there be Springs in the Coal before you come at the Coal, they carry the Water away; but if there be none, it falls into the Works in greater or less quantity according as the Rains fall.* Which answer is so much the more considerable, in that it gives me a further clear proof, that Springs are fed by Rain water, and not by any communications from the Sea; their original being above the Beds of Coal, they receiving the Rain-water into their Veins, and deriving it all along to their Fountains or Eruptions, above the Coals.

I might add out of him, Fifthly, *pag.* 85. 'That the *Scarborough Spaw*, notwithstanding it breaks out of Ground within Three or Four Yards off the Foot of the Cliff, which is near Forty Yards high, and within a quarter of a Mile there is another Hill, that is more, than as high again as the Cliff, and a descent all the way to the Cliff, so as the Rain-water cannot lye long upon the Ground, yet it is observable, that after a long Rain, the Water of the *Spaw* is altered in its taste, and lessened in its operation; whereas a rainy day or two will not sensibly hurt it. And now I am transcribing out of this Author, give me leave to add an Observation or two in confirmation of Rains being the Original of Springs. The first is (*pag.* 97.) this;

'In *England*, in the years 1654, 55, and 56. when our Climate was dryer than ever it had been mentioned to be in any Stories, so as we had very little Rain in Summer, or Snow in Winter, most of our Springs were dried up, such as in the Memory of the eldest men living had never wanted Water, but were of those Springs we call *fontes perennes*, or at least were esteemed so. He instances also out of a parallel Story out of *Heylin's Geography*, in the Description of *Cyprus*, where the Author relates; 'That in

'the days of *Conſtantine* the *Great*, there was
'an exceeding long drought there, ſo as
'Thirty Six Years they had no Rain, in
'much as all the Springs and Torrents,
'Rivers, were dried up; ſo that the Inhabi-
'tants were forced to forſake the Iſland, and
'to ſeek for new Habitations for want of
'freſh Water.

The Second is, *pag.* 84. 'That in the
'*Wolds* or *Downs* of *Torkſhire* they have ma-
'ny Springs break out after great Rains
'which they call *Gypſies*.

Neither is this Eruption of Springs after
long Rains, proper and peculiar only to the
Wolds of *Torkſhire*, but common to other
Countreys alſo, as Dr. **Childrey* witneſſeth
in theſe words: 'Sometimes there break
'out Water in the manner of a ſudden Land-
'flood, out of certain Stones, that are like
'Rocks ſtanding aloft in open Fields, near
'the riſing of the River *Kynet* [in *Kent*]
'which is reputed by the Common people
'a fore-runner of Dearth. That the ſudden
'eruption of Springs in places where they
'uſe not always to run, ſhould be a ſigne
'Dearth is no wonder. For theſe unuſual
'Eruptions, (which in *Kent* we call *Nail-*
'*bourns*) are cauſed by extreme gluts of
'Rain, or laſting wet weather, and never
'happen, but in wet years; witneſs the year
'1648

'1648. when there were many of them: '—and to our purpose very remarkable it 'was, that in the 1654. several Springs 'and Rivulets were quite dryed up, by 'reason of the precedent Drought, which 'raged most in 1651, 1652, and 1653. As 'the Head of the *Stour*, that rises near *El-'ham* in *Kent*, and runs through *Canterbury*, 'was dry for some Miles space: and the like 'happened to the Stream that crosseth the 'Road-way between *Sittingburn* and *Canter-'bury* at *Ospring* near *Feversham*, which at 'other times ran with a plentiful current, 'but then wholly failed: So we see that it is not infrequent for new Springs to break out in wet years; and for old ones to fail in great Droughts.

I cannot also here forbear to add, the probable account he gives of the Supply of the Spring-well on the Castle-hill at *Scarborough*; at which, I confess, I was somewhat puzzled. 'This Well, saith he, though it 'be upon the top of the Rock, not many 'Yards deep, and also upon the edge of the 'Cliff, is doubtless supplied by secret Chan-'nels within the ground, that convey the 'Rain and Showers into it, being placed on 'a dependent part of the Rock, near unto 'which there are also Cellars under an old 'ruinated Chappel, which after a great Rain

'are full of Water, but are dryed up in a 'long Drought.

As for what is said concerning the River *Volgas* pouring out so much Water into the *Caspian Sea*, as in a years time would make up a mass of Water equal to the Globe of the Earth; and of the hourly effusions of the River *Po* in *Italy*, which *Riccioius* hath computed to amount to 18000000. Cubical Paces of Water. Whence a late Learned Writer hath probably inferred, that all the Rivers in the World together, do daily discharge half an Ocean of Waters into the Sea, I must confess my self to be unsatisfied therewith. I will not question their Calculations, but I suspect they are out in their *Hypotheses*.

The Opinion of Mr. *Edmund Halley*, that Springs and Rivers owe their Original to Vapours condensed on the sides of Mountains, rather than unto Rains, I acknowledge to be very ingenious, grounded upon good Observations, and worthy of its Author; and I will not deny it to be in part true in those hot Countreys in the Torrid Zone, and near it; where, by reason of the great heats, the Vapours are more copiously exhaled out of the Earth, and its likely carryed up high in the form of Vapours. The inferiour Air at least is so charged with them, and by that means so very moist, that in some places

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their Knives rust even in their Pockets; and in the Night, so very fresh and cold, partly also by reason of the length of the Nights; that exposing the Body to it, causes Colds and Catarrhs, and is very dangerous. Whence also their Dews are so great, as in good measure to recompence the want of Rain, and serve for the nourishment of Plants; as they do even in *Spain* it self.

I shall first of all propose this Opinion in the Words of the Author, and then discourse a little upon it. After he had enumerated many of the high Ridges and Tracts of Mountains in the four Quarters of the World, he thus proceeds: "Each of which far surpass the usual height to which the Aqueous Vapours of themselves ascend, and on the tops of which the Air is so cold and rarified, as to retain but a small part of those Vapours that shall be brought thither by the Winds. Those Vapours therefore that are raised copiously in the Sea, and by the Winds are carried over the Low Lands to those Ridges of Mountains, are there compelled by the Stream of the Air, to mount up with it to the tops of the Mountains, where the Water presently precipitates, gleeting down by the Crannies of the Stone; and part of the Vapour entring into the Cavities of the Hills, the Water thereof gathers, as in an

Alembick, into the Baſons of Stone it finds which being once filled, all the overplus of Water that comes thither, runs over by the loweſt place, and breaking out by the ſides of the Hills forms ſingle *Springs*. Many of theſe running down by the Valleys or Gutters between the Ridges of the Hills, and coming to unite, form little Rivulets or Brooks. Many of theſe again meeting in one common Valley, and gaining the plain ground, being grown leſs rapid, become a River: and many of theſe being united in one common Channel, make ſuch Streams, as the *Rhine*, the *Rhoſne*, and the *Danube*, which latter one would hardly think the Collection of Waters condenſed out of Vapour, unleſs we conſider how vaſt a Tract of ground that River drains, and that it is the ſumm of all thoſe Springs which break out on the South ſide of the *Carpathian* Mountains, and on the North ſide of the immenſe Ridge of the *Alps*, which is one continued Chain of Mountains from *Switzerland* to the *Black Sea*. And it may almoſt paſs for a Rule, that the magnitude of a River, or the quantity of Water it evacuates, is proportionable to the length and height of the Ridges, from whence its Fountains ariſe. Now this Theory of Springs, is not a bare *Hypotheſis*, but founded on Experience, which it was my luck to gain in my

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abode at St. *Helena*; where, in the night time on the tops of the Hills, about Eight Hundred Yards above the Sea, there was so strange a condensation, or rather precipitation of the Vapours, that it was a great impediment to my Celestial Observations; for in the clear Sky the Dew would fall so fast, as to cover each half quarter of an hour my Glasses with little drops, so that I was necessitated to wipe them off so often; and my Paper, on which I wrote my Observations, would immediately be so wet with the Dew, that it would not bear Ink: by which it may be supposed, how fast the Water gathers in those mighty high Ridges I but now named.———At last he concludes: "And I doubt not but this *Hypothesis* is more reasonable, than that of those who derive all Springs from the Rain-waters, which yet are perpetual, and without diminution, even when no Rain falls for a long space of time.

This may, for ought I as yet see or know, be a good account of the Original of Springs in those fervid Regions, though even there, I doubt, but partial; but in *Europe*, and the more temperate Countries, I believe the Vapours in this manner condensed, have but little interest in the production of them, though I will not wholly exclude them. For,

First,

First, The Tops of the *Alps* above the Fountains of four of the greatest Rivers of *Europe*, the *Rhine*, the *Rhosne*, the *Danube* and the *Po*, are for about Six Months in the Year constantly covered with Snow, to a great thickness: so that there are no Vapours all that while that can touch the Mountains, and be by them condensed into Water; there falls nothing there but Snow, and that continuing all that while on the ground without Dissolution, hinders all access of Vapours to the Earth; if any rose, or were by Winds carried so high in that form, I am confident there are not. And yet for all that, do not those Springs fail, but continue to run all Winter; and it is likely to do without diminution; which is a longer time than Droughts usually last; especially if we consider, that this want of supply, is constant and annual; whereas Droughts are but rare and accidental. So that we need not wonder any more, that Springs should continue to run, and without diminution too, in times of Drought. True it is, that those Rivers run low all Winter, so far as the Snow extends, and to a good distance from their Heads; but that is for want of their accidental Supplies from Showers. Nay, I believe, that even in Summer, the Vapours are but rarely raised so high in a liquid form in the free

ee Air, remote from the Mountains, but e frozen into Snow, before they arrive at at height. For the *Middle Region* of the ir, where the Walk of the Clouds is, at aſt the ſuperior part of it, is ſo cold as to eez the Vapours that aſcend ſo high, en in Summer time. For we ſee that in e height and heat of Summer in great hunder-Storms for the moſt part it hails; y, in ſuch Tempeſts I have ſeen mighty owers of great Hail ſtones fall, ſome as g as Nutmegs or Pigeons Egs; and in ſome aces ſuch heaps of them, as would load ung Carts, and have not been diſſolved in day or two. At the ſame ſeaſons I have bſerved, in ſome Showers Hail-ſtones fall f irregular Figures, and throughout pellu-d, like great pieces of Ice, with ſeveral nags or Fangs iſſuing out of them: which ow they could be ſupported in the Air till ey amounted to that bulk and weight, is a ing worthy to be more curiouſly conſi-ered. For either they muſt fall from an credible height, the Vapours, they encoun-ed by the way, condenſing and as it were yſtallizing upon them into Ice, and in time ugmenting them to that bulk; or elſe there uſt be ſome ſtrange and unknown faculty the Air to ſuſtain them. But to leave hem, it is certain, that the Vapours after they

they are mounted up to a conſider
height in the Air, are congealed and tu
into the immediate component Principle
Snow, in which form I conceive they acq
a lightneſs, and are apt to aſcend hig
than they could do, ſhould they retain
form of a humid Vapour; as, we ſee, Ic
lighter than Water, out of which it is fro
But whether this be the reaſon of t
aſcent or not, I am ſure of the matter of f
that theſe Snow-Clouds do aſcend far ab
the higheſt Tops of the *Alps*, in the *Gri*
Countrey, in the beginning of the Spr
it ſnowed very faſt during my whole paſ
for ſix hours; and yet the Clouds ſeeme
be as far above my head, as they do here
England; and a great height they muſt
for the Snow to gather into ſo great fla
and to continue ſo long falling; nay, it
be three times ſo long. Moreover, we
that the higheſt Pikes and Summits of th
Mountains are covered with Snow.

2. In the Spring-time, when the Snow
ſolves, ſome of theſe Rivers that flow do
from the *Alpine* Mountains, run with a
Stream, and overflow their Banks, in d
Sun-ſhine Weather, though no Rain falls,
I my ſelf can witneſs; and therefore I p
ſume, that all the reſt do ſo too, as the
habitants affirmed. But in the Summer ti
aſc

after the Snow hath been some time melted, their Streams decay again, notwithstanding any Vapours condensed upon them, proportionably to the Droughts; neither are there any Floods, but upon falls of Rain.

3. That the Snow dissolved and soaking into the Earth, is the Original of the *Alpine* Springs; a probable Argument may be taken from the colour of the Water of those Rivers which descend from the *Alps*, at least on this Northern side, which I observed to be of a Sea-green, even to a great distance from their Heads; which whence can it proceed, unless from the Nitrous Particles of the Snow-water, of which they consist? Another also from the *Bronchocele*, or *gutturine tumour*, an *Endemial* Disease of the Natives of those parts, which Physicians and Naturalists attribute to the Water they drink, not without good reason; because, say they, it consists of melted Snow, which gives it that malignant quality. † *Scaliger* speaking of this Disease, saith, *Id ab aqua fit è nivibus liquefactis, quæ multum terrestris & crudi continet.* But because *Julius Palmarius* may possibly be in the right, who imputes this Disease to the Steams of the Minerals, especially Mercurial, wherewith these Mountains abound, which infect the Waters, and render

* Swoln Throats.

† De Subtilit. Exerc. 60. Sect. 2.

render them noxious to the nervous p
I ſhall not inſiſt upon this particular.

What Mr. *Halley* ſaith of Springs,
they are perpetual and without di
tion, even when no Rain falls for a
ſpace of time. If he underſtands it ge
ly of all Springs, I add, that are accou
quick ones too, I deny his aſſertion:
ſome there may be of that nature, I gr
a reaſon whereof may be given, *viz.*
the out-let is too ſmall to empty the W
of all the Veins and Earth that lye abo
in a long time. In our Native Coun
of *England* there are living and la
Springs riſing at the feet of our ſmall H
and Hillocks, to which I am ſure the
pours contribute very little; which is ſo
vious to every man, that I think I need
ſpend time to prove it.

Yet muſt I not diſſemble or deny, th
the Summer-time the Vapours do aſc
or are carried up in that form by the
of the Mountains to their higheſt tops,
above them; for there falls no Snow th
in the heat of Summer; and that which
there, is for the moſt part diſſolved.
that Rain falls plentifully there, I my
can witneſs; having been on the two high
Tops of the Mount *Jura*, (which keeps
Sno

Snow all Winter) on the one called *Thuiri* n a Thunder Shower; and on the other, cal- ed *la Dolez*, in a smart and continuing Rain: o that I will not deny, but in Summer- me the Vapours may contribute somewhat o the Springs; as I have elsewhere inti- nated.

And now that I am discourling of these nings, give me leave to set down an Obser- ation I made in the last Great Frost, the ggest that was ever known in the memory Man, which I had before met with in ooks, but did not give firm credit to, that that notwithstanding the violence of the rost, all the Springs about us, brake out nd ran more plentifully, than usually they o at any other time: which I knew not hat to impute to, unless perchance the close opping the Pores of the Earth, and keep- g in that part, which at other times was one to vapour away; which Account, I either then could, nor can yet fully ac- uiesce in.

To this I will here add an Abstract of Letter written by my Honoured Friend, r. *Tancred Robinson*.

YOU may peradventure meet with s
opposition against your Hypothe
Fountains, tho indeed I am more and more
firm'd in your Opinion of them, and th
of the Mountains. Father Tachart in hi
cond Voyage to Siam, says, when he went
the Top of the Table Mountain at the C
of Good Hope, the Rocks and Shrubs
perpetually dropping and feeding the Sp
and Rills below, there being generally C
hanging on the sides near the Top. The
observation hath been frequently made b
English Merchants in the Madera and C
Islands, especially in their Journies up t
Pike of Teneriff, in which, at such and
heights, they were always wet to the ski
the droppings of the great Stones, yet no
over head; the same I have felt in p
over some of the Alps. The Trees, whic
the Islands of Ferro and St. Thomas, are
to furnish the Inhabitants with most of
Water, stand on the sides of vast Mount
Vossius in his Notes on Pomponius Mela,
firms them to be Arborescent Ferula's; I
lieve there is something in the many Relat
of Travellers and Voyagers concerning
Trees; but then I fancy they are all mista
when they say, the Water issues out of
Tre

Trees; The Vapors ſtop't by the Mountains condenſe and diſtil down by the Boughs. There being no Mountains in Ægypt, may be one reaſon, why there is little or no Rain in that Countrey, and conſequently no freſh Springs; therefore in their Caravans they carry all their Water with them in great Borracio's. This may be the cauſe that the vaſt Ridge and Chain of Mountains in Peru, are continually water'd, when the great Plains in that Countrey are all dry'd up and parch't. This Hypotheſis concerning the Original of Springs from Vapours, may hold better in thoſe hot Regions within and near the Tropicks (where the Exhalations from the Sea are moſt plentiful, moſt rarify'd, and Rain ſcarce) than in the Temperate and Frigid ones (where it rains and ſnows generally on the Vertices of the Mountains) yet even in our European Climates I have often obſerv'd the Firs, Pines, and other Vegetables near the Summits of the Alps and Appennines, to drop and run with Water, when it did not rain above; ſome Trees more than others, according to the denſity and ſmoothneſs of their Leaves and Superficies, whereby they ſtop and condenſe the Vapours more or leſs. The Beams of the Sun having little force on the high parts of Mountains, the interrupted Vapours muſt continually moiſten them, and (as in the head of an Alembick)

condenſe and trickle down; ſo that we owe part of our Rain, Springs, Rivers, and conveniencies of Life, to the operation of diſtillation and Circulation by the Sun, the Sea, and the Hills, without even the laſt of which, the Earth would ſcarce be habitable. This preſent year in Kent *they have had no Rain ſince* March *laſt; therefore moſt of their Springs are dry at this very day, as I am aſſur'd from good hands. The high ſpouts of Water even to three Fathoms perpendicular out of innumerable holes on the Lake* Zirknitz *in* Carniola *after Rains on the adjacent Hills exceeds the ſpirting Gips or natural* Jet d'eau *we have in* England.

Novemb. 12. 1691. Tancred Robinſon.

I have read of ſome Philoſophers, who imagined the Earth to be a great Animal, and that the ebbing and flowing of the Sea, was the reſpiration of it: and now methinks, if this Doctrine be true, we have found out the Circulation of its Blood, or ſomething like it. For the Water muſt upon this ſuppoſition, move, in proportion to its bulk, faſter through the Veins of this round Animal, than the blood doth through thoſe of other living Creatures.

But let us ſuppoſe, that the Rivers do daily carry down to the Sea half an Ocean of Water, and that the Rain ſupplies all that, as our Opinion is, and ſee what we can

ſer from thence: I think it will be granted that ordinarily (*communibus annis*) the Rain that falls in a whole year amounts not to above one quarters continual Rain. Now if this ſuffices for a daily effuſion of half an Ocean, it is clear, that if it ſhould rain without any intermiſſion all the year round, the Rivers would pour out two Oceans into the Sea daily. And ſo in forty days continual Rain there would diſtil down upon the Earth eighty Oceans of Water. A prodigious quantity indeed and ſcarce credible, which if the Water be carried off as faſt as it comes on, infers a Circulation of a quantity of Water equal to the whole Ocean twice in twenty four hours. Suppoſing then that ſo much Water daily deſcends upon the Earth, I argue thus, The Water falling upon the Earth muſt have ſome time to run down to the Sea, and according to the ſmall declivity of the Continent, (ſuppoſe the Mountains pared off and the Land levelled) a conſiderable one too: and we ſee it actually hath, ſo that the Floods in great Rivers follow ſome days after the falls of Rain upon the higher grounds. And ſo tho at the time of the general Deluge the Waters haſtned down to the Sea as faſt as the declivity of the Earth would permit, yet they breaking out of the Fountains of the Abyſs, and falling down

from the Clouds abundantly faſter than they could run down the gentle declivity of the Earth, it deſerves to be conſidered whether by the end of forty days there might not have been water enough amaſſed to cover the Mountains fifteen Cubits high. And yet the Scripture doth not in plain terms ſay, that ever the waters of the Flood aroſe fifteen Cubits above the tops of the higheſt Mountains, as *Mr. Warren* well obſerves. Moreover, tho' it doth not ſeem clearly to limit the time of the Rains deſcent to forty days: but it may import that the Rain had continued ſo long before the Ark was lifted up above the Earth; and that it ceaſed not till one hundred and fifty days were over: for ſo long the Waters are ſaid to have prevailed upon the Earth, *Gen.* 7.24. that is continued and increaſed; whereas had the Rain ceaſed, and the Fountains been ſtopped at forty days end, the declivity of the Land would in likelihood have ſunk the Waters much by the end of one hundred and fifty days, which it was ſo far from doing, that notwithſtanding the help of the Wind, the tops of the Mountains were not ſeen till the beginning of the tenth Month, that is till two hundred and ſeventy days were paſt. Neither yet did the Mountains help but rather hinder the deſcent of the Waters down

the

the Sea, straitning it into Channels, obstructing its passage, and forcing it to take Circuits, till it got above the Ridges and tops of them.

As to this Argumentation and Inference the case is the same, if we hold that the Water circulates through the Veins of the Earth. For supposing the Rivers pour forth half an Ocean daily, and granting that in times of Floods their Streams are but double of their usual Currents (though I verily believe they are more than quadruple) and that the effusions of the Fountains be in like measure augmented, it will follow that the daily discharge of the Rivers will amount to two Oceans. Now at the time of the general Deluge both these Causes concurred. For there being a constant Rain of forty eight days, there must on that account be a continual Flood, and the Fountains of the great Deep being broken up, they must in all likelihood afford as much Water as the Rain: which whither it would not suffice in forty natural days to produce a Flood as big as that of *Noah*, notwithstanding the continual descent and going off of the Waters, I propose to the consideration of the Ingenious. Especially if we allow, as is not unreasonable to suppose, that the Divine Providence

might not firſt cauſe a contrary Wind to ſtop and inhibit the deſcent of the Waters, as afterwards he raiſed an aſſiſting one to carry them off.

I have but one thing more to add upon this Subject, that is, that I do not ſee how their Opinion can be true, who hold that ſome Seas are lower than others, as for Example, the *Red Sea* than the *Mediterranean*. For it being true that the Water keeps its level, that is, holds its ſuperfices every where equidiſtant from the Center of Gravity; or if by accident one part be lower, the reſt by reaſon of their fluidity will ſpeedily reduce the ſuperficies again to an equality. The waters of all Seas communicating either above, or under ground, or both ways, one Sea cannot be higher or lower than another: but ſuppoſing any accident ſhould elevate or depreſs any, by reaſon of this confluence or communication it would ſoon be reduced to a level again, as might demonſtratively be proved.

But I return, to tell the Reader what I think the moſt probable of all the Cauſes I have heard aſſigned of the Deluge, which is, the Center of the Earth being at that time changed, and ſet nearer to the Center or middle of our Continent, whereupon the

Atlantic

Atlantick & Pacifick Oceans must needs press upon the Subterraneous Abyss, and so, by mediation thereof, force the Water upward, and at last compell it to run out at those wide mouths and apertures made by the Divine Power breaking up the Fountains of the great Deep. And we may suppose this to have been only a gentle and gradual Emotion, no faster than that the Waters running out at the bottom of the Sea, might accordingly lowre the Superficies thereof sufficiently, so that none needed run over the Shores. These Waters thus powred out from the Orifices of the Fountains upon the Earth, the declivity being changed by the removal of the Center, could not flow down to the Sea again, but must needs stagnate upon the Earth, and overflow it; and afterwards the Earth returning to its old Center, return also to their former Receptacles.

If any shall object against this *Hypothesis*, because by it the Flood will be rendr'd Topical, and restrained only to the Continent we live in: though I might plead the Unnecessariness of drowning *America*, it being in all probability unpeopled at that time; yet because the Scripture useth general expressions concerning the extent of the Flood, saying, Gen. 1. 19. *And all the high hills that were under the whole heaven were covered*;

and again, Ver. 22. *All in whoſe noſtrils was the breath of life, of all that was in the dry land dyed.* And becauſe the *Americans* also are ſaid to have ſome ancient Memorial Tradition of a Deluge; and the Ingenious Author of the *Theory of the Earth* hath by a moderate Computation, demonſtrated, that there muſt be then more people upon the Earth, than now: I will propoſe another way of ſolving this *Phænomenon*, and that is, by ſuppoſing that the Divine Power might at that time, by the inſtrumentality of ſome natural Agent, to us at preſent unknown, have depreſs the Surface of the Ocean, as to force the Waters of the Abyſs through the ſorementioned Channels and Apertures, and ſo make them a partial and concurrent Cauſe of the Deluge.

That there are at ſome times in the courſe of Nature extraordinary preſſures upon the Surface of the Sea, which force the Waters outwards upon the Shores to a great height is evident. We had upon our Coaſts the laſt year an extraordinary Tide, wherein the Water roſe ſo high, as to overflow all the Sea-banks, drown multitudes of Cattel, and fill the lower Rooms of the Houſes of many Villages that ſtood near the Sea, ſo that the Inhabitants, to ſave themſelves, were forced to get up into the upper Rooms and Garrets

of

of their Houſes. Now how this could be effected, but by an unuſual preſſure upon the *Superficies* of the Ocean, I cannot well conceive. In like manner that the Divine Providence might at the time of the Deluge ſo order and diſpoſe ſecond Cauſes, as to make ſo ſtrong a preſſure upon the face of the Waters, as to force them up to a height ſufficient to overflow the Earth, is no way unreaſonable to believe.

Theſe *Hypotheſes* I propoſe, as ſeeming to me at preſent moſt facile and conſonant to Scripture, without any concern for either of them; and therefore am not ſolicitous to gather together, and heap up Arguments to confirm them, or to anſwer Objections that may be made againſt them, being as ready to relinquiſh them upon better information, as I was to admit and entertain them.

Of

Of the Effects of the Deluge.

I Come now to the Third Particular propoſed, that is, To enquire concerning the Conſequents of the Deluge, What conſiderable effects it had upon the Earth and its Inhabitants.

It had doubtleſs very great, in changing the *Superficies* of the dry Land: In ſome places adding to the Sea; in ſome taking from it; making Iſlands of *Peninſulæ*, and joining others to the Continent; altering the Beds of Rivers, throwing up leſſer Hills, and waſhing away others, *&c.* The moſt remarkable effects it's likely were in the skirts of the Continents; becauſe the Motion of the Water was there moſt violent. *Athanaſius* *Kircher* * gives us a Map and Deſcription of the World after the Flood, ſhewing what Changes were made therein by it, or upon occaſion of it afterward, as he fanſies or conjectures. But becauſe I do not love to trouble the Reader with uncertain Conjectures, I ſhall content my ſelf to have ſaid

* *De Arca Noæ*, p. 192

in general, that it may rationally be suppo-
ed, there were then great Mutations and
lterations made in the superficial part of
he Earth: but what they were, though we
ay guess, yet can we have no certain
nowledge of: and for particulars, refer the
urious to him.

One malignant effect it had upon Man-
ind, and probably upon other Animals too,
n shortning their Age, or the duration of
heir lives; which I have touched before,
nd shewn, that this diminution of Age, is
o be attributed either to the change of the
emperature of the Air, as to Salubrity, or
quality, (sudden and frequent changes of
Weather having a very bad influence upon
he Age of Man in abbreviating of it, as I
could easily prove) or else to the deteri-
ority of the Diet; or to both these Causes.
But how the Flood should induce or occa-
sion such a change in the Air and produc-
ions of the Earth, I do not comprehend.

Of

Of formed Stones, Sea-ſhells, and Marine-like Bodies found at great ſtances from the Shores.

ANother ſuppoſed Effect of the Fl was a bringing up out of the Sea, ſcattering all the Earth over an innume multitude of Shells and Shell fiſh; there ing of theſe ſhell-like Bodies, not only lower Grounds and Hillocks, but upon higheſt Mountains, the *Appennine* and themſelves. A ſuppoſed Effect, I ſay, bec it is not yet agreed among the Learned, w ther theſe Bodies, formerly called *petri Shells*, but now-a-days paſſing by the n of *formed Stones*, be original Productions Nature, formed in imitation of the Shells Fiſhes; or the real Shells themſelves, eith remaining ſtill entire and uncorrupt, or p trified and turned into Stone, or at leaſt Stones caſt in ſome Animal Mold. Bot parts have ſtrong Arguments and Patron I ſhall not ballance Authorities, but only con ſider and weigh Arguments.

Thoſe

Those for the latter Part, wherewith I shall begin, are,

First, Because it seems contrary to that great Wisdom of Nature, which is observable in all its Works and Productions, to design every thing to a determinate end, and for the attaining that end, make use of such ways, as are most agreeable to mans reason, that these prettily shaped Bodies, should have all those curious Figures and Contrivances (which many of them are formed and adorned with) generated or wrought by a Plastick Vertue, for no higher end, than only to exhibit such a form. This is Mr. *Hook*'s Argumentation. To which Dr. *Plot* answers, That the end of such Productions, is to beautifie the World with those Varieties; and that this is no more repugnant to the Prudence of *Nature*, than is the production of soft Flowers, *Tulips*, *Anemones*, *&c.* of which we know as little use of, as of formed Stones. But hereto we may reply, That Flowers are for the ornament of a Body, that hath some degree of life in it: a Vegetative Soul, whereby it performs the actions of Nutrition, Auction and Generation; which it is reasonable should be so beautified: And, Secondly, Flowers serve to embrace and cherish the Fruit, while it is yet tender; and to defend it from the injuries of Sun and Weather;

ther; eſpecially for the Protection and Se-
rity of the *Apices*, which are no idle or
leſs part, but contain the Maſculine Sp
and ſerve to give fecundity to the S
Thirdly, Though formed Stones may be
ful to Man in Medicine, yet Flowers a
us abundantly more uſes, both in Meat
Medicine.

Yet I muſt not diſſemble, that there
Phænomenon in Nature, which doth ſo
what puzzle me to reconcile, with the
dence obſervable in all its works; and ſe
ſtrongly to prove, that Nature doth ſo
times *ludere*, and delineate Figures, for
other end, but for the ornament of
Stones, and to entertain and gratifie our C
rioſity, or exerciſe our Wits. That is, t
elegant impreſſions of the Leaves of Pl
upon *Cole ſlate*, the knowledge whereof
muſt confeſs my ſelf to owe to my Lear
and Ingenious Friend, Mr. *Edward Lloyd*
Oxford, who obſerved of it in ſome C
pits in the way from *Wycheſter* in *Glocef-*
ſhire to *Briſtoll*; and afterwards comm
cated to me a Sample of it. That which
found, was marked with the Leaves of two
three kinds of *Ferns* and of *Harts-tongue*.
told me alſo, that Mr. *Woodward*, a *Londo*
ſhewed him very good Draughts of
common *female Fern*, naturally formed

Col

Cole, which himſelf found in *Mendip* Hills, and added, that he had found in the ſame Pits, Draughts of the common *Cinquefoil*, *Silver-graſs* and *Strawberries*. But theſe Figures are more diligently to be obſerved and conſidered.

Secondly, There are found in the Earth at great diſtance from the Sea, real Shells unpetrified and uncorrupted, of the exact Figure and Conſiſtency of the preſent natural Sea-ſhells, and in all their parts like them, and that not only in the lower Grounds and Hillocks near the Sea, but in Mountains of a conſiderable height, and diſtant from the Sea. *Chriſtianus Mentzelius* in his Diſcourſe concerning the *Bononian Phoſphorus*, gives us a relation of many Beds of them found mingled with Sand in the upper part of a high Mountain not far from *Bologna* in *Italy*. His words are theſe, *Non procul monte Paterno dicto, lapidis Bononienſis patria, unico forte milliari Italico diſtanti (loci nomen excidit memoriâ) ingens mons imminet præruptus à violentia torrentium aquarum, quas imbres frequentes ex vicinis montibus confluentes efficiunt, atque ingentes terrarum moles ab iſto monte proſternunt ac dejiciunt. In hac montis ruina, ſuperiore in parte viſuntur multæ ſtrages ſeriesve, ex teſtis conchyliorum omnis generis, plurimâ arenâ interjectâ, inſtar ſtrati ſuper ſtratum*

ſtratam (ut chymicorum vulgus loquitur
Eſt enim inter haſce teſtarum conchyli
ſtrages ſeriéſve arena ad craſſitiem ulna
ultra interpoſita. Erant autem teſtæ
rum conchyliorum, omnes ab invicem diſti
nec cuiquam lapidi impactæ, adeò ut ſe
rim omnia manibus tractari & dignoſci
rint. Effecerat hoc arena pura, nullo
lutove intermixta, quæ conchyliorum teſta
ſervaverat per multa ſecula integras.
rea verò diuturnitate temporis omnes ſi
crant in albiſſimam calcem facilè reſolu

Fabius Columna alſo obſerves, that in
tophaceous Hills and Cliffs about *A*
in *Apulia*, there are found various ſorts
Sea Shells, both broken and whole, un
rupt, and that have undergone no change.
Ovid in Metam. lib. 15.

Et procul à pelago Conchæ jacuere marin

I am alſo informed by my Learned and W
thy Friend Dr. *Tancred Robinſon*, That
nior *Settali* ſhewed him in his *Muſeu*
Milan, many *Turbens*, *Echini*, *Pearl-f*
(one with a Pearl in it) *Pectunculi*, and
veral other perfect Shells, which he him
found in the Mountains near *Genoa*, and
terwards my ſaid Friend took notice
of ſeveral Beds of them himſelf, as he pa
ov

over Mount *Cenis*, above fifty Leagues distant from the Sea. Moreover, my forementioned Friend Mr. *Lloyd* sent me perfect *Escallop* and Sea-Urchin Shells, exactly resembling the like Sea-Shells, both for figure, colour, weight and consistency: which he himself gathered up near *Oxford*. Now that Nature should form real Shells, without any design of covering an Animal, is indeed so contrary to that innate *Prolepsis* we have of the Prudence of Nature, (that is the Author of Nature) that without doing some Violence to our Faculties, we can hardly prevail with our selves to believe it: and gives great countenance to the Atheists assertion, that things were made or did exist by chance, without counsel or direction to any end.

Add hereto Thirdly, That there are other Bodies besides Shells found in the Earth, resembling the Teeth and Bones of some Fishes, which are so manifestly the very things they are thought only to resemble, that it might be esteemed obstinacy in any man that hath viewed and considered them to deny it. Such are the *Glossopetræ* dug up in *Malta* in such abundance, that you may buy them by measure, and not by tale: and also the Vertebres of Thornbacks and other Cartilaginous Fishes there found, and sold for Stones among the *Glossopetræ*, which have no grea-

ter dissimilitude to the Teeth of a living *Shark*, and Vertebres of a *Thornback*, then lying so long in the Earth, as they must needs have done, will necessarily induce. And if the very inspection of these Bodies, is not enough to convince any man, that they are no Stones, but real Teeth and Bones, *Fabius Columna* proves it by several strong Arguments. 1. Those things which have a woody bony or fleshy nature, by burning are changed first into a Coal, before they go into a *Calx* or Ashes; but those which are of a tophaceous or stony substance, go not first into a Coal, but burn immediately into a *Calx* or Lime, unless by some vitreous or metallick mixture they be melted. Now these Teeth being burnt, pass presently into a Coal, but the tophous substance adhering to them, doth not so; whence it is clear, that they are of an osseous, and not stony nature.

Next he shews, that they do not shoot into this form after the manner of Salts or Crystal, which I shall have occasion further to treat of by and by. Then he proves it from that Axiom, *Natura nihil facit frustra*; Nature makes nothing in vain. But these Teeth, were they thus formed in the Earth, would be in vain; for they could not have any use of Teeth; as neither the

Bone

Bones of supporting any Animal. Nature never made Teeth without a Jaw, nor Shells without an Animal Inhabitant, nor single Bones, no not in their own proper Element, much less in a strange one. Further he argues, from the difficulty or impossibility of the Generation of *Glossopetræ* in such places; because, among *Tophi* and Stones in those dry places, there could not be found matter fit for to make them of. But granting that, he queries whether they were generated at first all of a sudden, or grew by little and little from small to great, as Animals Teeth, whose form they imitate, do. If the first be said, He demands, Whether the *Tophus*, out of which they were extracted, were generated before or after the Teeth were perfected? If it be said before, he asks, Whether there were a place in it of the figure and magnitude of the Tooth, or did the Tooth make it self a place? If the *Tophus* were concrete before, and without a cavity, the vegetative power of the Stone now in birth, could not by force make it self a place in the hard and solid *Tophus*; or if it could and did, the *Tophus* must needs be rent. If there were a place before ready made in the *Tophus*, then was not that figure excavated in the *Tophus* by the vegetative nature of the Tooth it self; but the *Tophus* by its own nature

ture and precedent cavity, gave the form to the Tooth. If the latter part be chosen, and it be said, that the Stone by its vegetative power grew by degrees; it may be answered as before, that could not be; because the hardness of the *Tophus* could not have yielded to the vegetative force of the Tooth, but would rather have been rent or divided by it; or rather the *Tophus* it self must have vegetated, containing a cavity or *utrus* of the shape of the Tooth, into which the osseous humor, penetrating through the Pores, and filling the cavity of the *Utrus* must there have coagulated, and taken the form thereof, as is observed in Stones that have their original from a *Fluor*. That both Tooth and Case might vegetate together he denies, because in all the Teeth which he had seen, the *Basis* or Root was found broken, and that not with an uniform fracture but different in every one. Which Argument is not to be slighted, for that it shews or proves, that there was no vegetation of the case; because in all other figured Fossils it is observed, that they are never found mutilous, broken or imperfect. Neither can it reasonably be said or believed, that these Roots or Teeth were by some chance broken within the *Tophi*, but rather, that when they were casually overwhelmed and buri-

buried in that tophous Earth, they were broken off from the Jaws of the Animal in thoſe volutations, and ſo in that manner mutilated. Another Argument to prove them to be true Teeth and no Stones, he brings from their various parts and figures, which muſt elſe have been ſo wrought and formed in vain. The Tooth being not one homogeneous Body, but compounded of parts of a different conſtitution, there muſt in the formation of it be made a various election of humors, one for the Root, one for the Inner Part, one for the Superficies of it. Then for the Figures, Magnitude, Situation or Poſture, and fitting of them; ſome are great and broad, and almoſt triangular; others narrower and ſmaller, others very ſmall and narrow, of a pyramidal figure, ſome ſtraight, ſome crooked, bending downwards, or toward the nether ſide, ſome inclining toward the left, others toward the right ſide: ſome ſerrate with ſmall Teeth, others with great Indentures (which is obſerved in the leſſer triangular ones) ſome ſmooth without any Teeth, as the narrow pyramidal ones. All which things are obſerved in *Shark*'s Teeth, not only by the Learned Naturaliſts, but alſo by Fiſher-men and Mariners. The firſt row of Teeth in theſe Animals hanging out of the mouth,

bend forward and downward; the second row are streight, especially toward the sides of the mouth, where they are triangular and broad, the other rows bend downward toward the inner part of the mouth. Thus far * *Columna.*

* *Dissert. De Glossopetra.*

Fourthly, If these formed Stones be indeed original Productions of Nature, in imitation of Shells and Bones, how comes it to pass, that there should be none found, that resemble any other natural Body, but the Shells and Bones of Fishes only? Why should not Nature as well imitate the Horns, Hoofs, Teeth, or Bones of Land Animals, or the Fruits, Nuts, and Seed of Plants? Now my learned Friend Mr. *Edward Lloyd* above mentioned, who hath been most diligent in collecting, and curious in observing these Bodies of any man I know, or ever heard of, tells me, that he never found himself, or had seen in any Cabinet, or Collection, any one Stone that he could compare to any part of a Land Animal. As for such that do not resemble any part of a Fish, they are either Rock Plants, as the *Astroites*, *Asteriæ trochites*, &c. or do shoot into that form, after the manner of Salts and Fluors, as the *Belemnites* and *Selenites*.

Fifthly, Those that deny these Bodies to have been the Shells and Bones of Fishes, have

have given us no satisfactory account of the manner of their Production. For that they do not shoot into that form after the manner of Salts, may be proved by many Arguments. First, All Salts that shoot their Crystals or Concretions, are of one uniform substance, and their Figures are more simple, and may be owing to the Figure of the Principles whereof they are compounded: in other Bodies that shoot, as the *Pyrites* and *Belemnites*, one may observe streight *Radii* or Fibres proceeding from one Center. Secondly, Did those Bodies shoot into these Figures after the manner of Salts, it seems strange to me, that two Shells should be so adapted together at the heel, as to shoot out to the same extension round, and the upper and nether Valve be of different Figure, as in natural Shells. Thirdly, Were these Bodies produced in the manner of saline Concretions, it's strange there should be such varieties of them, and their Shapes so regular, and exactly circumscribed: so great a diversity of Figures, arguing a greater variety of Salts, or of their modifications and mixtures, than are likely to be found in Nature; and the Curvilineous Concretions of Salts never, that I have yet seen, appearing in that regularity of Figure and due Circumscription, as in these Bodies: which is

an Argument of the Government of some Principle, superior to Matter figured and moved, in their Formations.

4ly, Were these Bodies nothing but Concretions of Salts or saline mixtures, it seems no less strange, that so many Liquors impregnated with all sorts of Salts and Mineral Juices, in all proportions, having been at one time or other industriously or accidentally exposed to crystallize, and let stand long in Vessels, there should never have been found in them any such Concretions. For if any had happened, we should doubtless have heard of them, and the Observers would have improved such an Experiment to the Production of the like Bodies at their pleasure. So I have finished what I have to alledge in defence of the latter part, That these formed Stones, were sometimes the real Shells or Bones of Fishes, I mean the figured part of them.

I proceed now to set down, what may be objected against this Opinion, or offered in assertion of the contrary, *viz.* That these Bodies are primitive Productions of Nature, in imitation of the Shells and Bones of Fishes.

Against the former Opinion we have been pleading for, it may be objected, That there follow such strange and seemingly absurd

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Consequences from it, as are hardly reconcilable to Scripture, or indeed to sober Reason: as,

First, That the Waters must have covered the whole Earth, even the highest Mountains, and that for a long time, there being found of these Shells, not only in the most mountainous parts of our Countrey, but in the highest Mountains in *Europe*, the *Appennine* and *Alps* themselves, and that not only scattered, but amassed in great lumps, and lying thick in Beds of Sand, as we have before shewn. Now this could hardly be the effect of a short Deluge, which if it had carried any Shell fish so high, would in all likelihood have scattered them very thin. These Beds and Lumps of them necessarily inferring, that they must have bred there, which is a work of time.

Now the general Deluge lasted in the whole, but ten Months; and it's not likely the Tops of the Mountains were covered half that time. Neither is it less repugnant to Reason than Scripture; for if the Waters stood so high above the Earth, for so long a time, they must by reason of their Confluence, be raised as high above the Sea too. But what is now become of this huge Mass of Waters, equal to six or seven Oceans? May not the Stoicks here set in, and help us out

out at a dead lift? The Sun and Moon, say they, might possibly sup it all up. Yes, but we cannot allow time enough for that; for according to the moderate Draughts they take now a-days, one Ocean would suffice to water them many Ages, unless perchance when they were young and hot, they might need more drink. But to be serious, I have no way to answer this Objection, but by denying, that there are any Beds or great Lumps and Masses of these formed Stones to be found near the Tops of the *Alps*, or other high Mountains; but yet there might be some particular Shells scattered there by the general Deluge. Another thing there is as difficult to give an account off, as of the Shells getting up to the Tops of Mountains: that is, of those several Beds or Floors of Earth and Sand, *&c.* one above another, which are observed in broken Mountains. For one cannot easily imagine, whence these Floors or Beds in the manner of *Strata super strata* (as the Chymists speak) should come, but from the Sediments of great Floods, which how or whence, they could bring so great a quantity of Earth down, when there was but little Land above the Sea, I cannot see. And one would likewise be apt to think that such a Bed of Sands, with plenty of Cockle-shells intermixt, as we mentioned be-

fore

fore in the Mountain near *Bononia* in *Italy*, must have been sometimes the Bottom of the Sea. But before one can give a right judgment of these things, one must view the Mountains where such Layers and Beds of Earth and Shells are found: for perchance they may not be elevated so high above the present Surface of the Sea, as one would judge by the descriptions of them.

Secondly, It would hence follow, that many Species of Shell-fish are lost out of the World, which Philosophers hitherto have been unwilling to admit, esteeming the destruction of any one Species a dismembring of the Universe, and rendring it imperfect: whereas they think the Divine Providence is especially concerned to secure and preserve the Works of the Creation: and that it is so, appears, in that it was so careful to lodge all Land-Animals in the Ark at the time of the general Deluge. The Consequence is proved in that, Among these petrified Shells, there are many sorts observed, which are not at this day, that we know of, any where to be found. Such are a whole *genus* of *Cornua Ammonis*, which some have supposed to be *Nautili*, though to me they do not seem so to be, but a different *Genus* by themselves, of which there have not any been seen either cast a shore, or raked

out

out of the Sea, at any time, that ever I heard of. Nay, my very Learned and Honoured Friend Dr. *Lister* proceeds further, and saith, That when he particularly examined some of our *English* Shores for Shells, as also the Fresh Waters and the Fields, that he did never meet with any one of those *Species* of Shells found at *Adderton* in *Yorkshire*, *Wansford* bridge in *Northamptonshire*, and about *Gunthorp* and *Beauvoir*-Castle, &c. any where else, but in their respective Quarries. What can we say to this? Why it is possible that many sorts of Shell-Fish may be lodged so deep in the Seas, or on Rocks so remote from the Shores, that they may never come to our sight.

Thirdly, It follows also, that there have been Shell fish in these cold Northern Seas of greater bulk and dimensions, than any now living; I do not say in these, but in the most Southernly and *Indian*; viz. *Cornua Ammonis* of two foot diameter, and of thickness answerable.

To this I answer, That there are no petrified Shells that do in bigness much exceed those of the natural Shell fish found in our Seas, save the *Cornua Ammonis* only, which I suspect to have never been, nor had any relation to any Shells of Fishes: or to imitate or resemble them, at least some of them

them. As for the *Nautili*, they are much different from them. For the *Nautili*, at least all the Species of them known to us, are (as Dr. *Plot* well observes) extravagantly broad at the mouth, and have not more than two other small turns at the most, whereas the turns of the *Ophiomorphites* are proportionable one to another; and in number many times four or five, and sometimes six, if we may believe *Aldrovand.* And there are *Nautili lapidei*, which do as nearly resemble the *Nautilus* Shells as any other *Cochlites* do their respective prototypes, As Mr. *Lloyd* assures me he had observed many in Museums. And the Learned and Ingenious Mr. *Richard Waller* then Secretary to the *Royal Society* in a Letter to me dated *Feb.* 4.—87. writes, That he had been lately at *Keinsham* in *Somersetshire*, and making a search after the *Cornua Ammonis*, found one of the true *Nautilus* shape, covered in some places with a shelly Incrustation with the Diaphragms to be seen to the Center of the *Volutæ*, and in each Diaphragm, the hole by which they communicate one with another, by a string or gut in the Fish. This was of a very hard Stone and large size, weighing at least twenty eight pound, though some part was broken off. Another Argument that they have no relation to the common

mon *Nautili*, is, that they break into pieces somewhat resembling Vertebres, as I was first advised by the fore-remembred Mr. *Lloyd*, and have since noted my self. I also received from that very Ingenious and Inquisitive Gentleman, happy in making natural Discoveries, Mr. *William Cole* of *Bristoll* such an Account of a sort or two of these *Ophiomorphus* Bodies, as is enough to stagger any mans belief, if not utterly to overthrow his Opinion of their owning their original to any Sea-shell; which take in his words. *Among others of this kind of Bodies which I have observed, I shall instance in one, which can be reduced to none but the* Ophiomorphites, *which I found growing between the thin Plates of a kind of brittle blew Slate in large Rocks, some a furlong within the Full-Sea Mark, and in some where the Water comes not at highest Tides, only in great Storms, when the Waves break, it is dasht sometimes against them, being forced up by the Winds; which being broken with a convenient Tool, will shiver all into very thin Plates; between which I have found in abundance of those Stones, but as brittle as the Slate in which they grew, and of the same consistence; but so thin, that the broadest, being about four Inches, are not so thick as a Half-Crown Piece, some not half an Inch broad, were as thin*

thin as a Groat, and so proportionably up to the largest, covered with a Superficies as thin, and exactly of the colour of Silver foil: and where the Sea water washeth them, and they are exposed to the Sun and Wind when the Tide is gone, they are tarnished, and appear of a Gold, Purple, Blew and Red; as any thing on which Silver foil is laid, being exposed a considerable time to the Sun, Wind and Weather, will do. These have the same Spiral Figures, and as regular as the other Serpent-Stones, and being taken off with a Knife, leave the same impressions on both sides of the Slate.

In some such Rocks of Slate, but much harder, I found some of those Stones of another kind, thick in proportion to their breadth, from an Inch to twenty eight Inches broad; in the broadest one was at the great end (on which some Authors have fabulously reported the head to grow) six Inches thick: all of them covered over with a white Scale, which will be taken off, one coat under another, as Pearls or the Shells of some Fishes. I saw some impressions as big as the Fore-wheel of a Chariot, &c. What shall we say to this? Were there ever any Shell-fish in ours or other Seas, as broad as a Coach-wheel? others as thin as a Groat? What is become of all this kind of *Ophiomorphite* Shell-fish? And yet (which

(which is strange) both these kinds by Mr. *Cole*'s description, seem to have been covered with Shells.

By what I have said concerning these *Ophiomorphous* Stones not to have been *Nautili*, I would not be thought to reflect upon, or detract from the Veracity or Exactness of the Observations of Mr. *Robert Hook*, whom for his Learning and deep Insight into the Mysteries of Nature, I deservedly honour. I question not, but he found in the *Keinsham Ophiomorphites* perfect Diaphragms of a very distinct substance from that which filled the Cavities, and exactly of that kind which covered the out-side, being for the most part Whitish, or Mother of Pearl coloured. Mr. *Waller* fore-mentioned attests the same, writing in his Letter to me of *Feb.* 4. 1687. that in the ordinary Snake-stones there, the shelly Diaphragms were very visible. In this respect they do resemble *Nautili*; though for their Figure they are much different, and of a distinct *Genus*. I never broke any of the *Keinsham* Stones; but of those found about *Whitby* in *Yorkshire* many; but could not observe in them any shell-like Diaphragms, only they broke into such pieces as I mentioned before. And my Dear and much Honoured Friend Dr. *Tancred Robinson* writes me, That he had broken

broken several *Cornua Ammonis*, but could never find any Diaphragms or Valves in them, though he confesseth Mr. *Woodward* shew'd him one with such in his curious Collection of Petrifactions. So that these Diaphragms are not to be found in all the sorts of them. But if they be found in some, it is a strong presumption, that they were at first in all, however they come to disappear.

In fine, these Ophiomorphous Stones do more puzzle and confound me, than any other of the formed Stones whatsoever, because by Mr. *Hook's* Description of these of *Keinsham*, they seem to have been, or to owe their Original to Shells; and yet there is nothing like them appears at this day in our or any other Seas, as far as I have heard or read.

Thirdly, A Second Argument to prove these formed Stones never to have been Shells, Dr. *Plot* affords us, Because that even those Shells, which so exactly represent some sorts of Shell-fish, that there can be no exception upon the account of Figure, but that they might formerly have been Shells indeed, at some places are found only with one Shell, and not the other. Thus in *Cowley* Common [in *Oxfordshire*] we meet only with the gibbous, not the flat Shell of the

**Hist. nat. Oxf.* p. 117.

petrified *Oyster*, and so of the *Escallop*-Stone in the Quarries near *Shotover*: which if they had once been the Shells of *Oysters* and *Escallops*, had scarce been thus parted. To this I answer, That this Argument is not necessarily conclusive; because there may possibly be some reason of it, though we know it not, nor can easily imagine any. The like Answer may be returned to the next Argument.

Thirdly, Because (saith the Doctor) I can by no means satisfie my self, how it should come to pass, that in case these Bodies had once been moulded in Shells, some of the same kind should be found in Beds, as the *Conchites* at *Langley*, *Charlton*, *Adderbury*; and others scattered as at *Glympton*, and *Teynton*; so the *Ostracites* at *Shotover* and *Cowley*. Now how it should fall out, that some of the *Bivalves* should always be found with the Shells separate, as the *Ostracites* and *Pectites* and others always closed together, as the *Conchites* in all places I have yet seen.

Fourthly, Because many of these forms of Stones seem now to be *in fieri*, (which is the Doctor's next Argument) as the *Selenites* at *Shotover* and *Hampton-gay*, the *Conchytes* at *Glympton* and *Cornwell*, many of which were of a perfect Clay and others of Stone, &c. As for the *Selenites*, I grant them to be

been *in fieri*, because they are formed after the manner of Salts by shooting or crystallization; but concerning the Clay Cockles I say with the Civilians, *ampliandum*. But to give these Arguments their due, though they be not demonstrative proofs, yet they infer a great degree of probability, and shrewdly urge and shake the contrary Opinion.

The other Arguments, the Doctor alledges, admit a plausible solution, excepting such as we have already touched, and given as good an answer to, as either the matter will admit, or we were able to give.

To the First, That there are found Stones resembling Shell-fish that stick to Rocks: I answer, That many of them might by accident be rub'd off the Rocks they stick to, or thrust off by Birds insinuating their Bills between the Shell and Rock, to feed upon their meat; but by what means soever it be, that they are sometimes broken off, the matter of fact is certain; for we find many *patellæ* cast upon the Shores by the working of the Sea, Why then might they not be brought up by the Flood?

To the Second, Why might not the Bones of Whales, Sea-horses, all squamose Fishes, the great Shells of the *Buccina*, *Murices*, *Conchæ Veneris*, & *Solenes*, and almost all the

cruſtaceous kind, as *Crabs* and *Lobſters*, &c. as well have been brought up and left behind by the Flood, and afterward petrified, as any of the teſtaceous kind? I anſwer, Of the great *Buccina*, *Murices* and *Conchæ Veneris*, there are very few or none found in our Seas: it may be there are of them in the Mountains and Quarries of the *Indies*, were any man ſo curious as to ſearch them out: Though it's likely but few, becauſe being great things, eaſie to be ſeen, and that part of the World having been fully peopled ſoon after the Flood, their beauty might invite the Inhabitants to ſearch them out, and gather them up. But Secondly, Thoſe other kinds may poſſibly be leſs durable, and more apt to be wrought upon, to moulder, decay and be diſſolved in time by the Weather, Rains and Moiſture of the Earth, or were not ſo ſuſceptive of petrifying Juices.

The Third Argument is already anſwered in the precedent Diſcourſe.

To the Fourth Argument as to what concerns the *Selenites*, *Aſtroites* and *Belemnites* we have anſwered already. That the Species of *Brontiæ* cannot be the petrified Shells of *Echini Spatagi*, the Arguments the Doctor alledges out of *Ariſtotle* and *Rondeletius* do not evince. For though in ſome Seas they may be πελάγιοι καὶ ἀκτίνιοι, yet in other

are they plentiful enough. In our own Seas at *Llandwyn* in the Iſle of *Angleſey* we may reaſonably conjecture, they are more plentiful than the common *Echini* any where with us; becauſe we found more of their Shells caſt up there on the Shore, than of the *Echini* in any Shore about *England*: nay, ſo common are they there, that even the Vulgar have taken notice of them, and impoſed a Name upon them, calling them *Mermayds Heads*. And though their Briſtles or Prickles were but ſmall, yet were they not few or thin ſet, as *Rondeletius* ſaith.

How the Snake-ſtones about *Huntly-nab* and *Whitby* in *Yorkſhire* came to be included in Globular or Centricular Stones, is not difficult to make out: for the Cliffs thereabout being Allume-ſtone or Mine, wherein theſe Snake-ſtones lye; the Sea in Springtides and tempeſtuous weather undermines and throws down part of the Shore or Cliffs, which by the fall break in pieces, and the *Ophiomorphus* Stone being harder than the reſt of the Cliff, is broken off from it by the fall, or its volutation in the Sea afterward, with ſome part of the Cliff or Allume-ſtone ſticking to each ſide of it where it is concave, and by reaſon of its Figure and *Striæ*, cannot eaſily part from it.

Lastly, To dissemble nothing, I have my self observed some Cockle-stones to have seemingly different impressions or *Striæ* upon the same Superficies; which *Phænomena* it is very hard to give an account of. I have also observed a large Stone almost as hard as Marble, that was so marked every where throughout with the impressions of Cockles and their *Striæ*, so crossing one another in every part of it, that if it were nothing but Shells amassed together by a stony Cement, those Shells must have before their Concretion been broken into infinite small pieces or fragments, scarce any remaining entire; which I do not see how any Floods or working of the Sea, could possibly effect.

So I have finished what I had to say concerning this supposed Effect of the *Deluge*, the bringing in of Shells, and scattering them all over the dry Land. But yet I must not dismiss this particular, till I have said something to an Objection that presently occurs to any one who considers this matter. The Waters of the Flood having been supplied partly by Rains, partly by the breaking up of the Fountains of the great Deep, and not by any Irruption or Inundation of the Sea, how could any Sea-shells at all be brought in by it?

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To this I anſwer, That the great Deep communicates with the Sea; and the Waters riſing up out of the ſubterraneous Abyſs, the Sea muſt needs ſucceed, elſe would there have been an empty ſpace left in the middle of the Earth; ſo that the Shell fiſh might as well come in this way from the bottom of the Sea, as by an Inundation: in like manner as the Fiſh in the Lake of *Carniola*, called the *Zirchnitzer See* do deſcend annually under ground through many great holes in the bottom, and return again by the ſame holes. To all this I might add, that into the Lands near the skirts of the Sea, and lower Hills, theſe Shells might in part be brought by particular Floods, of which many we read of, & more poſſibly than are recorded in any Hiſtory may have happened ſince the general Deluge. Hence the chief Champions of the Opinion of *Mock-ſhells* are not difficult to grant, that in ſome Countries, and particularly along the Shore of the *Mediterranean Sea*, there may all manner of Shells be found promiſcuouſly included in the Rocks or Earth, and at good diſtances too from the Sea. Which are the words of Dr. *Liſter*, repeated and approved by Dr. *Plot*. But this will not ſerve their turn; for we have before proved, that in the middle part, and near the Center of our own

Countrey, at a great distance from the Sea, *viz.* in *Oxfordshire*, there are found not only shell-like Stones, but real Shells, or Mock-shells (as some esteem them) for Figure, Colour, Weight, Consistency, or any other Accident not to be distinguished from true Shells; and that not such as have been accidentally scattered there, but dig'd out of the ground in plenty, and of Fishes that are rarely found in our Seas: Patterns whereof were sent me by my Ingenious Friend, Mr. *Lloyd*. Who, I hope will ere long gratifie the Curious, by publishing a general Catalogue of all the *formed Stones* found in *England*, and his Remarks upon them.

And I have likewise proved by good Authority, that beyond the Seas, in high Mountains, and many Leagues distant from the Sea too, there have been Beds of real Shells. I might have added Sharks-teeth or *Glossopetræ*, as both *Goropius Becanus* and *Georgius Agricola* testifie; if not in Beds, yet plentifully dispersed in the Earth. There are several Medical Histories extant (as Dr. *Tancred Robinson* informs me) of perfect Shells found in Animal Bodies, in whose Glands they were originally formed, which is a considerable Objection, not easily to be removed.

SECT.

SECT. 2.

The Second poſſible Cauſe of the Worlds Deſtruction in a Natural Way, the Extinction of the Sun.

2. The poſſibility of the Suns extinction. Of which Accident I ſhall give an Account in Dr. *More*'s words, in the laſt Chapter of his Treatiſe of the *Immortality* of the *Soul*. 'This (ſaith he) though it may ſeem a *Panick* fear at firſt ſight; yet if the matter be throughly examined, there will appear no contemptible Reaſons that may induce men to ſuſpect, that it may at laſt fall out, there having been at certain times ſuch near offers in Nature towards this ſad Accident already. *Pliny* ſpeaks of it as a thing not unfrequent, that there ſhould be *Prodigioſi & longiores Solis defectus, qualis occiſo Dictatore* Cæſare & Antoniano *bello, totius anni pallore continuo, Hiſt. Nat. lib.* 2. *cap.* 30. The like happened in *Juſtinian*'s time, as *Cedrenus* writes; when for a whole year together the the Sun was of a very dim and duskiſh Hue, as if he had been in a perpetual Eclipſe: And in the time of *Irene* the Empreſs, it was ſo dark for ſeventeen days together, that the Ships loſt their way in the Sea, and were ready

ready to run one against another, as *Theophanes* reports. But the late accurate Discovery of the Spots of the Sun by *Scheiner*, and the appearing and disappearing of Fixt Stars and Comets, and the excursions of these last, do argue it more than possible, that after some vast Periods of Time the Sun may be so inextricably inveloped by the *macule*, that he may quite lose his light; and then you may easily guess what would become of the Inhabitants of the Earth. For without his vivifick heat, neither could the Earth put forth any Vegetables for their sustenance; neither if it could, would they be able to bear the extremity of the Cold, which must needs be more rigorous, and that perpetually, than it is now under the Poles in Winter time. But this Accident, though it would indeed extinguish all life, yet being quite contrary to the Dissolution by Fire, of which the Apostle speaks, I shall pass it over without further consideration, and proceed to a Third.

SECT.

SECT. 3.

The Third possible Cause of the Worlds Destruction, The Eruption of the Central Fire.

3. The Possibility of the Eruption of the Central Fire, if any such there be, inclosed in the Earth. It is the *Hypothesis* of Monsieur *des Cartes*, that the Earth was originally a Star, or great Globe of Fire, like the Sun, or one of the fixt Stars, situate in the Center of a *Vortex* continually whirling round with it. That by degrees it was covered over or incrustated with *maculæ*, arising on its Surface, like the scumm on a boiling Pot, which still increasing and growing thicker and thicker, the Star losing its light and activity, and consequently the motion of the Celestial Vortex about it growing more weak, languid, and unable to resist the vigorous incroachments of the neighbouring *Vortex* of the Sun; it was at last drawn in, and wholly absorpt by it, and forced to comply with its motion, and make one in the Quire of the Suns *Satellites*. This whole Hypothesis I do utterly disallow and reject. Neither did the Author himself (if we may believe him) think it true, that the Earth was thus generated. For he saith,

Quinimo

Quinimo ad res naturales meliùs explicandas earum cauſas altiùs hic repetam quàm ipſas unquam extitiſſe exiſtimem. Non enim dubium eſt, quin mundus ab initio fuerit creatus cum omni ſua perfectione, ità ut in eo & Sol, & Terra, & Luna, & Stellæ extiterint. . . . . Hoc fides Chriſtiana nos docet; hócque etiam ratio naturalis planè perſuadet. Attendentes enim ad immenſam Dei potentiam, non poſſumus exiſtimare illum unquam quidquam feciſſe, quod non omnibus ſuis numeris fuerit abſolutum. That is, *Moreover, for the better explicating of Natural Things, I ſhall bring them from higher or more remote Cauſes than I think they ever had. For there is no doubt, but the World was originally created in its full perfection, ſo that in it were conteined both Sun and Moon and Earth and Stars,* &c. *For this the Chriſtian Faith teacheth us, and this alſo Natural Reaſon doth plainly perſuade; for attending to the immenſe power of God, we cannot think that he ever made any thing that was not complete in all points.* But tho he did not believe that the Earth was generated or formed according to his *Hypotheſis*, yet ſurely he was of opinion, that it is at preſent ſuch a Body as he repreſented it after its perfect Formation, *viz.* with a Fire in the middle, and ſo many ſeveral Cruſts or Coats incloſing it; elſe would he have given us a mere

mere Figment or Romance instead of a Body of Philosophy.

But tho I do reject the *Hypothesis*; yet the being of a Central Fire in the Earth is not, so far as I understand, any way repugnant to Reason or Scripture. For first of all, the Scripture represents Hell as a Lake of Fire, *Mark* 9. 43, 44. *&c. Revel.* 20. 10, 14, 15. and likewise as a low place beneath the Earth, so *Psalm* 86. 13. and *Deut.* 32. 22. it is called the *nethermost hell.* Prov. 15. 24. *The way of life is above to the wise, that he may depart from hell beneath.* 2. Many of the Ancients understand that Article of the Creed, *He descended into Hell*, of our Saviours Descent into that local Hell beneath the Earth, where he triumphed over the Devil and all the Powers of Darkness. And particularly *Irenæus* interprets that Saying of our Saviour, that *the Son of man should be three days in the heart of the earth*, of his being three days in the middle of the Earth, which could not be meant (saith he) of the Sepulchre, because that was hewen out of a Rock in its *Superficies*, 3. It is a received Opinion among the Divines of the Church of *Rome*, that Hell is about the Center of the Earth: insomuch as some of them have been solicitous to demonstrate that there is room enough to receive all the Damned, by giving us the Dimensions thereof. Neither

Neither is it repugnant to the History of the Creation in *Genesis*. For tho indeed Moses doth mention only Water and Earth, as the component parts of this Body; yet doth he not assert that the Earth is a simple, uniform, homogeneous Body; as neither do we, when we say, *upon the face of the earth*, or the like. For the Earth, we see, is a Mass made up of a multitude of different *Species* of Bodies, *Mettals*, *Minerals*, *Stones* and other Fossils, *Sand*, *Clay*, *Marle*, *Chalk*, &c. which do all agree in that they are consistent and solid more or less, and are in that respect contradistinguished to Water; and together compound one Mass, which we call Earth. Whether the interior parts of the Earth be made up of so great a variety of different Bodies is to us altogether unknown. For tho it be observed by Colliers, that the Beds of Coals lie one way, and do always dip towards the East, let them go never so deep; so that, would it quit cost, and were it not for the Water, they say, they might pursue the Bed of Coals to the very Center of the Earth, the Coals never failing or coming to an end that way; yet that is but a rash and ungrounded Conjecture. For what is the depth of the profoundest Mines, were they a Mile deep, to the Semidiameter of the Earth? not as one to four thousand. Com-

paring

paſing this Obſervation of Dipping with my Notes about other Mines, I find that the Veins or Beds of all generally run Eaſt and Weſt, and dip towards the Eaſt. Of which what Account or Reaſon can we give, but the motion of the Earth from Weſt to Eaſt? I know ſome ſay, that the Veins, for Example, of Tin and Silver dip to the North, tho they confeſs they run Eaſt and Weſt, which is, I confeſs, a thing I cannot underſtand, the Veins of thoſe Metals being narrow things. Sr *Tho. Willoughby* in his foremencioned Letter writes thus, —"I have talked with ſome of my Colliers about the lying of the Coal, and find, that generally the Baſſet end (as they call it) lyes Weſt, and runs deeper toward the Eaſt, allowing about twenty yards in length to gain one in depth; but ſometimes they decline a little from this Poſture; for mine lie almoſt South-Weſt and North-Eaſt. They always ſink to the Eaſt more or leſs. There may therefore, for for ought we know, be Fire about the Center of the Earth as well as any other Body, if it can find a *Pabulum* or Fewel there to maintain it. And why may it not? ſince the Fires in thoſe ſubterraneous Caverns of *Ætna*, *Veſuvius*, *Stromboli*, *Hecla* and other burning Mountains or *Vulcano's*, have found wherewith to feed them for thouſands of years,

years, And as there are at some, tho uncertain periods of time, violent Eruptions of Fire from the *Craters* of those Mountains, and mighty Streams of melted Materials poured forth from thence: so why may not this Central Fire in the Earth, (if any such there be) receiving accidentally extraordinary Supplies of convenient Fewel either from some inflammable Matter within, or from without, rend the thick exterior *Cortex* which imprisons it, or finding some Vent and Issues break forth and overflow the whole *Superficies* of the Earth, and burn up all things. This is not impossible, and we have seen some *Phænomena* in nature which bid fair towards a Probability of it. For what should be the reason of new Stars appearing and disappearing again; as that noted one in *Cassiopeia*, which at first shone with as great a lustre as *Venus*, and then by degrees diminishing, after some two years vanish'd quite away? but that by great Supplies of combustible matter the internal Fire suddenly increasing in quantity and force either found or made its way through the Cracks or Vents of the *maculæ* which include it; and in an instant as it were overflowed the whole Surface of the Star, whence proceeded that illustrious Light; which afterwards again gradually decayed, its Supply failing

failing: Whereas other newly appearing Stars, which either have a constant Supply of Matter, or where the Fire hath quite dissolved the *Maculæ*, and made them comply with its motion, have endured for a long time, as that which now shines in the Neck of *Cygnus*, which appears and disappears at certain Intervals.

But because it is not demonstrable that there is any such Central Fire in the Earth, I propose the eruption thereof rather as a possible than probable means of a Conflagration: and proceed to the last means whereby it may naturally be effected, and that is:

SECT. 4.

The Fourth Natural Cause of the World's Dissolution, the Earth's Dryness and Inflammability.

4: The Dryness and Inflammability of the Earth under the Torrid Zone, with the eruption of the *Vulcano's* to set it on fire. Those that hold the Inclination of the *Equator* to the *Ecliptick* daily to diminish, so that after the Revolutions of some Ages they will stump and consent, tell us, that the Sun-beams falling perpendicularly and constantly on the

parts under the *Equator*, the Ground there about muſt needs be extremely parch'd and rendred apt for Inflammation. But for my part I own no ſuch Decrement of Inclination. And the beſt Mathematicians of our Age deny that there hath been any ſince the eldeſt Obſervations that are come down to us. For tho indeed *Ptolomy* and *Hipparchus* do make it more than we find it by above twenty minutes, yet that Difference is not ſo conſiderable but that it may well be imputed to the Difference of Inſtruments or Obſervations in point of Exactneſs. So that not having decreaſed for eighteen hundred years paſt, there is not the leaſt ground for Conjecture, that it will alter in eighteen hundred years to come, ſhould the World laſt ſo long. And yet if there were ſuch a Diminution, it would not conduce much (ſo far as I can ſee) to the bringing on of a Conflagration. For tho the Earth would be extremely dried, and perchance thereby rendred more inflammable; yet the Air being by the ſame Heat as much rarified, would contain but few nitrous Particles, and ſo be inept to maintain the Fire, which, we ſee, cannot live without them. It being much deaded by the Sun ſhining upon it; and burning very remiſly in Summer time and hot Weather: For this Reaſon in Southern Countries

trict, in extraordinary hot Seasons, the Air hence sufficeth for Respiration. To the clearing up of this, let us a little consider what Fire is. It seems to consist of three different sorts of parts. 1. An extremely thin and subtil Body, whose Particles are in a very vehement and rapid motion. 2. (A supposed) nitrous *Pabulum* or Fewel, which it receives from the Air. 3. A Sulphureous or unctuous *Pabulum*, which it acts and preys upon, passing generally by the Name of Fewel. This forementioned subtil Body agitating the (supposed) nitrous Particles it receives from the Air, doth by their help, as by Wedges, to use that rude similitude, penetrate the unctuous Bodies, upon which it acts, and divide them into their immediate component Particles, and at length perchance into their first Principles: which Operation is called the Chymical Anatomy of mix'd Bodies. So we see Wood, for Example, divided by Fire into Spirit, Oil, Water, Salt, and Earth.

That Fire cannot live without those Particles it receives from the Air is manifest, in that if you preclude the Access of all Air, it is extinguished immediately: and in that, where and when the Air is more charged with them, as in cold Countries, and cold Weather, the Fire rages most: That likewise

it cannot be continued without an unctuous *Pabulum* or Fewel, I appeal to the experience of all Men.

Now then in the rarified Air in the Torrid Zone the nitrous Particles being proportionably ſcattered and thin ſet, the Fire that might be kindled there would burn but very languidly and remiſsly, as we ſaid juſt now: and ſo the Eruptions of *Vulcano's*, if any ſuch happened, would not be like to do half the Execution there that they would do in cold Countries. And yet I never read of any ſpreading Conflagration cauſed by the Eruptions of any *Vulcano's*, either in hot Countries, or in cold. They uſually caſt out abundance of thick Smoak like Clouds darkening the Air: and likewiſe Aſhes and Stones, ſometimes of a vaſt Bigneſs; and ſome of them, as *Veſuvius*, Floods of Water, others, (as *Ætna*) Rivers of melted Materials, running down many Miles: as for the Flames that iſſue out of their Mouths at ſuch times, they are but tranſient, and mounting upwards, ſeldom ſet any thing on Fire.

But not to inſiſt upon this, I do affirm, that there hath not as yet been, nor for the future can be any ſuch drying or parching of the Earth under the *Torrid Zone*, as ſome may imagine. That there hath not yet been I appeal to Experience, the Countries lying under

under the Course of the Sun, being at this day as fertile as ever they were, and wanting no more Moisture now than of old they did; having as constant and plentiful Rains in their Seasons as they then had. That they shall for the future suffer any more Drought than they have heretofore done, there is no reason to believe or imagine, the Face of the Earth being not altered, nor naturally alterable, as to the main, more at present than it was heretofore. I shall now add the Reason, why I think there can be no such Exsiccation of the Earth in those parts. It's true indeed, were there nothing to hinder them, the Vapours exhaled by the Sun-beams in those hot Regions, would be cast off to the North and to the South a great way, and not fall down in Rain there, but toward the Poles: But the long and continued Ridges or Chains of exceeding high Mountains are so disposed by the great and wise Creator of the World, as, at least in our Continent, to run East and West, as *Gassendus* in the life of *Peireskius* well observes, such are *Atlas*, *Taurus*, and the *Alps*, to name no more: They are, I say, thus disposed as if it were on purpose to obviate and stop the Evagation of the Vapours Northward, and reflect them back again, so that they must needs be condensed, and fall upon the Coun-

tries out of which they were elevated. And on the South Side, being near the Sea, it is likely that the Wind, blowing for the most part from thence, hinders their exuction that way. This I ſpeak by preſumption, becauſe in our Countrey for at leaſt three quarters of the year the Wind blows from the great *Atlantick* Ocean: which was taken notice of by *Julius Cæſar* in the fifth of his Commentaries, *De Bello Gallico*. *Corus ventus, qui magnam partem omnis temporis in his locis flare conſuevit.*

As for any Deſiccation of the Sea, I hold that by mere natural Cauſes to be impoſſible, unleſs we could ſuppoſe a Tranſmutation of Principles or ſimple Bodies, which for Reaſons alledged in a former Diſcourſe I cannot allow. I was then and am ſtill of opinion that God Almighty did at firſt create a certain and determinate number of Principles, or variouſly figured Corpuſcles, intranſmutable by the force of any natural Agent, even Fire it ſelf, (which can only ſeparate the parts of heterogeneous Bodies) yet not an equal number of each kind of theſe Principles, but of ſome abundantly more, as of *Water*, *Earth*, *Air*, *Ether*; and of others fewer, as of *Oil*, *Salt*, *Metals*, *Minerals*, &c. Now that there may be ſome Bodies indiviſible by Fire is, I think, demonſtrable.

For

For how doth or can Fire be conceived to divide, one can hardly imagine any other way than by its ſmall parts, by reaſon of their violent Agitation inſinuating themſelves into compound Bodies, and ſeparating their parts; which allowing, yet ſtill there is a term of Magnitude, below which it cannot divide, *viz.* it cannot divide a Body into ſmaller parts than thoſe whereof it ſelf is compounded. For taking, ſuppoſe, one leaſt Part of Fire, 'tis clear that it cannot inſinuate it ſelf into a Body as little or leſs than it ſelf: and what is true of one is true of all: I ſay we can imagine no other way than this, unleſs perchance by a violent Stroke or Shock, the parts of the Body to be divided may be put into ſo impetuous a motion as to fall in ſunder of themſelves into leſſer Particles than thoſe of the impellent Body are, which I will not ſuppoſe at preſent. Now it is poſſible, that the Principles of ſome other ſimple Bodies may be as ſmall as the Particles of Fire. But however that be, it is enough, if the Principles of ſimple Bodies be by reaſon of their perfect Solidity naturally indiviſible. Such a ſimple Body, I ſuppoſe, Water ſeparated from all Heterogeneous Mixtures to be: and conſequently the ſame quantity thereof that was at firſt created doth

ſtill remain, and will continue always, in deſpight of all natural Agents, unleſs it pleaſe the Omnipotent Creator to diſſolve it. And therefore there can be no Deſiccation of the Seas, unleſs by turning all its Water into Vapour, and ſuſpending it in the Air, which to do what an immenſe and long-continuing Fire would be requiſite? to the maintenance whereof all the inflammable Materials near the Superficies of the Earth would not afford Fewel enough. The Sun, we ſee, is ſo far from doing it, that it hath not made one ſtep towards it theſe four thouſand years, there being in all likelyhood as great a quantity of Water in the Ocean now as was immediately after the Flood: and conſequently there would probably remain as much in it, ſhould the World laſt four thouſand years longer.

This Fixedneſs and Intranſmutability of Principles ſecures the Univerſe from Diſſolution by the prevailing of one Element over another, and turning it into its own Nature; which otherwiſe it would be in continual danger of. It ſecures likewiſe the perpetuity of all the *Species* in the World, many of which, if their Principles were tranſmutable, might by ſuch a change be quite loſt: And laſtly bars the Production or Creation

of

of any new *Species*; as in the forementioned Treatise I have shewn.

The Mention of these Principles or Primitive Simple Bodies gives me a fair opportunity of making a second Digression, to Discourse a little concerning the *Primæve Chaos*, and Creation of the World.

A Digreſſion concerning the Primitive Chaos *and Creation of the World.*

WHich yet I ſhould not have done, had I not been thereto requeſted. The mention of theſe Principles, I ſay, gives me an opportunity of making ſuch a Digreſſion, becauſe I take them to have been the Effects of the firſt Creation, ſpoken of in the firſt and ſecond Verſes of *Geneſis*. *In the beginning God created the heaven and the earth. And the earth was without form and void*: and comprehended in the word *Earth*. By the word *Chaos* the Ancients underſtood a huge Maſs of Heterogeneous Bodies, or the Principles and Seeds of natural Bodies confuſedly and diſorderly mingled togethe in one lump: for ſo *Ovid* deſcribes it in the beginning of the firſt of his *Metamorphoſis*:

Quon

Quem dixere Chaos, *rudis indigeſtáque moles,*
Nec quicquam niſi pondus iners, congeſtáque eôdem
Non bene junctarum diſcordia ſemina rerum.

I ſuppoſe therefore, that God Almighty did at firſt create this terreſtrial Globe (containing the Seeds and Principles of all natural, viſible, ſublunary Bodies, variouſly and confuſedly commixt together, which the Ancients called by the name of *Chaos*) partly of ſolid and more ponderous, partly of fluid and lighter parts; the ſolid and more ponderous naturally ſubſided, the fluid and watry, as being more light, got above them. That the Waters did at firſt cover the Earth ſeems to me clear from the teſtimony of the Scripture. For in the Hiſtory of the Creation in the firſt Chapter of *Geneſis*, *Verſ.* 2. It is ſaid, *Darkneſs was upon the face of the deep*, and the *Spirit of God moved upon the face of the waters*, intimating that the Waters were uppermoſt. And in *Ver.* 9. And God ſaid, *Let the waters under the heaven be gathered together into one place, and let the dry land appear.*

Whence, I think, it is manifeſt, that before that time the Land was covered with Water.

Water. And that this gathering together of Waters was not into any ſubterraneous Abyſs, is likewiſe clear from the Text: For it is ſaid, that God called this Collection of Waters *Seas*, as if it had been on purpoſe to prevent ſuch a Miſtake. So *Pſalm* 104. 6. It is ſaid of the Earth at the Creation, *Thou coveredſt it with the deep as with a garment: the waters ſtood above the mountains.* And again *Ver.* 9. *That they turn not again to cover the earth.*

The more ſolid and ponderous parts, tho they were of various Figures, and perhaps Magnitudes, were all called by the common name of *Earth*, and the fluid by the name of *Water*.

This ſolid part of the Earth was made up of the Principles of many ſimple Bodies variouſly commix'd, and irregularly diſpoſed one among another; yet tho they ſeem to be thus diſorderly mingled, as tho they had been careleſly ſhaken and ſhuffled together, yet I do believe there was ſome Order obſerved by the moſt wiſe Creator in the Diſpoſition of them.

The fluid part of this Globe (as we ſaid and as of its own nature it muſt needs do) covered the ſolid, till it pleaſed God to ſeparate them, and by providing great Receptacles for the Waters, to gather them together into

one place. Whether this were done by the immediate Application and Agency of Almighty Power, or by the Intervention and Instrumentality of second Causes I cannot determine. It might possibly be effected by the same Causes that Earthquakes are, viz. Subterraneous Fires and *Flatuses*. We see what incredible effects the Accension of Gunpowder hath: It rends Rocks, and blows up the most ponderous and solid Walls, Towers, and Edifices, so that its force is almost irresistible. Why then might not such a proportionable quantity of such Materials set on fire together raise up the Mountains themselves, how great and ponderous soever they be, yea the whole Superficies of the dry Land (for it must all be elevated) above the Waters? And truly to me the Psalmist seems to intimate this Cause, *Psalm* 104. 7. For after he had said, *The waters stood above the mountains*, he adds, *At thy rebuke they fled, at the voice of thy thunder they hasted away.* Now we know that an Earthquake is but a subterraneous Thunder, and then immediately follows, *The mountains ascend, the valleys descend*, &c. If there might be a high Hill raised up near the City *Trœzen*, out of a plain Field, by the force of a subterraneous Fire or *Flatus*, as *Ovid* tells us.

Est

Ovid. Metamorph. lib. 15.

Est prope Pitthæam tumulus Trœzena frequ
ullis
Arduus arboribus, quondam planissima
campi
Area, nunc tumulus: nam (res horrenda
relatu)
Vis fera ventorum, cæcis inclusa cavernis,
Expirare aliqua cupiens, luctatáque frustra
Liberiore frui cælo, cum carcere rima
Nulla fuit toto, nec pervia flatibus esset,
Extentam tumescit humum, ceu spiritus
oris
Tendere vesicam solet, aut distenta hircos
Terga capri; tumor ille loci permansit & alti
Collis habet speciem, longóque induruit ævo.

A Hill by Pitthæan Trœzen *mounts* it *crown'd*
With Sylvan Shades, which once was level ground,
For furious Winds (a story to admire)
Pent in blind Caverns, struggling to expire,
And vainly seeking to enjoy th' Extent
Of freer Air, the Prison wanting vent,
Puffs up the hollow Earth extended so,
As when with swelling Breath we Bladders blow.

The

The humour of the place remained ſtill. In time grown ſolid, like a lofty Hill.

A parallel Inſtance hereto we have of later date, of a Hill not far from *Puzzuolo* [*Puteoli*] beſide the Gulph of *Baiæ*, which I my ſelf have view'd and been upon. It is by the Natives called * *Monte di cenere*, and was raiſed by an Earthquake *Sept.* 29. 1538. of about one hundred foot perpendicular altitude; though ſome make it much higher: according to *Stephanus Pighius* it is a Mile Aſcent to the top, and four Miles round at the foot: We indeed judged it not near ſo great. The People ſay it bears nothing; nothing of any uſe or profit I ſuppoſe they mean: elſe I am ſure there grows *Heath, Myrtle, Maſtick tree*, and other Shrubs upon it. It is a ſpungy kind of Earth, and makes a great ſound under a Mans feet that ſtamps upon it. The ſame Earthquake threw up ſo much Earth, Stones and Aſhes as quite filled up the *lacus Lucrinus*, ſo that there is nothing left of it now, but a fenny Meadow. If ſuch Hills, I ſay, as theſe may be, and have been elevated by ſubterraneous Wild-fire; *flatus* or Earthquakes: *Si parvis licuit componere magna*, if we may compare great things with ſmall, why might not the greateſt and higheſt Mountains in the World be raiſed up in like manner by a ſubterraneous

ous *Flatus* or Wild-fire, of quantity and force sufficient to work such an effect, that is, that bears as great a proportion to the superincumbent weight and bulk to be elevated, as those under these smaller Hills did to theirs?

But we cannot doubt this may be done, when we are well assured that the like hath been done. For the greatest and highest Ridge of Mountains in the World, the *Andes* of *Peru*, have been for some hundreds of Leagues in length violently shaken, and many alterations made therein by an Earthquake that happened in the year 1646. mentioned by *Kircher* in his *Arca Noæ*, from the Letters of the Jesuits.

You will say, If the Mountains be thus heaved up by subterraneous Fires, the Earth must needs be hollow all underneath them, and there must be vast Dens and Caverns dispersed throughout them.

I answer, 'Tis true indeed, so there are; as may undeniably be proved by instances. For the new Mountain we mentioned at *Puteoli*, that was thus raised, being of a Mile steep ascent, and four Miles round at the foot, a proportionable Cavity must be left in the Earth underneath: And the Mountain *Ætna* at the last Eructation alone having disgorged out of its bowels so great a flood of melted

melted Materials, as if ſpread at the depth and breadth of three foot, might reach four times round the whole Circuit of the *Terraqueous Globe*, there muſt likewiſe an anſwerable Vault be left within. You will demand, How then comes it paſs, that they ſtand ſo firm, and do not founder and fall in after ſo many Ages? I anſwer, that they may ſtand, appears by the foreſaid new-raiſed Mountain. For notwithſtanding the Cavity in and under it, it hath ſtood firm and ſtaunch, without the leaſt ſinking or ſubſidency, for above an hundred and fifty years: neither is there any great ſinking or falling in at *Ætna* it ſelf; at leaſt in no degree anſwerable to its ejected matter. The reaſon is the ſtrength and firmneſs of their Vaulture and Pillars, ſufficient to ſupport the ſuperincumbent weight. And yet in ſome places there are ſinkings and fallings in, which have afterwards become Valleys or Pools of Water. But as for the Cavities that are lower than the *Superficies* of the Ocean, the Water, where it could inſinuate and make its way, hath filled them up to that height. I ſay where it could make its way, for that there are many empty Cavities even under the Sea it ſelf, appears by the ſhaking and heating too of the very Water of the Sea in ſome places in Earthquakes, and raiſing up the borders or skirts of it, ſo as to drive the

Water a great way back; and the raising up new Islands in the middle of the Sea; as *Delos* of old, and *Therasia* in the *Ægean* in *Seneca's* time, which was heaved up in the sight of many Mariners then present and looking on.

Howbeit, I cannot positively assert the Mountains thus to have been raised. But yet whether without means, or by whatsoever means it were, a Receptacle for the Waters was prepared, and the dry Land and Mountains elevated, so as to cast off the Waters, on the third day, and which is wonderful, the Cavities made to receive the Waters, and the whole *terra firma*, or dry Land with its Mountains were so proportioned one to the other, as that the one was as much depressed below the Shores, as the other was elevated above them. And, as if the one had been taken out of the other, The Sea with all its Creeks, and Bays, and In-lets, and other Appendants was made, and is very near equal to the whole dry Land with its Promontories and Mountains, if not in *Superficies*, yet in bulk or dimensions, though some think in both. Which equality is still constantly maintained, notwithstanding all Inundations of Land, and Atterations of Sea; because one of these doth always nearly ballance the other, according to the Vulgar Proverb we have before mention'd,

tion'd, *What the Sea loſes in one place, it gains in another.* If any ſhall demand, How the Sea comes to be gradually depreſſed, and deepeſt about the middle part; whereas the bottom of it was in all likelihood equal while the Waters covered the whole Earth? I anſwer, the ſame Cauſe that raiſed up the Earth, whether a ſubterraneous Fire or *flatus*, raiſed up alſo the skirts of the Sea, the aſcent gradually decreaſing to the middle part, where, by reaſon of the ſolidity of the Earth, or gravity of the incumbent Water, the bottom was not elevated at all. For the encloſed Fire in thoſe parts where its firſt accenſion or greateſt ſtrength was, raiſed up the Earth firſt, and caſt off the Waters, and thence ſpreading by degrees, ſtill elevated the Land, and drove the Waters further and further; till at length the weight of them was too great to be raiſed, and then the Fire brake forth at the tops of the Mountains, where it found leaſt reſiſtance, and diſperſt it ſelf in the open Air. The Waters alſo, where they found the bottom ſandy or yielding, made their way into all thoſe Cavities the Fire had made and left, filling them up as high as the level of the Ocean. Neither let any man imagine, that the Earth under the Water, was too ſoft and muddy to be in this manner raiſed by ſubterraneous Fire; for I have ſhewn before, that the bottom of the

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Howbeit, I cannot poſitively aſſert the Mountains thus to have been raiſed. But yet whether without means, or by whatſoever means it were, a Receptacle for the Waters was prepared, and the dry Land and Mountains elevated, ſo as to caſt off the Waters, on the third day, and which is wonderful, the Cavities made to receive the Waters, and the whole *terra firma*, or dry Land with its Mountains were ſo proportioned one to the other, as that the one was as much depreſſed below the Shores, as the other was elevated above them. And, as if the one had been taken out of the other, The Sea with all its Creeks, and Bays, and In-lets, and other Appendants was made, and is very near equal to the whole dry Land with its Promontories and Mountains, if not in *Superficies*, yet in bulk or dimenſions, though ſome think in both. Which equality is ſtill conſtantly maintained, notwithſtanding all Inundations of Land, and Atterations of Sea; becauſe one of theſe doth always nearly ballance the other, according to the Vulgar Proverb we have before mentioned,

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Sea is so saddened and hardened by the weight of the incumbent Water, that the High-ways, beaten continually by Horses and Carriages, are not more firm and solid. But omitting this (which is only a conjecture) I shall discourse a little more concerning the Equality of Sea and Land.

It hath been observed by some, That where there are high Cliffs or Downs along the Shore, there the Sea adjoining is deep; and where there are low and level Grounds, it is shallow: the depth of the Sea answering to the Elevation of the Earth above it: and as the Earth from the Shores is gradually higher and higher, to the middle and parts most remote from the Sea, as is evident by the descents of the Rivers, they requiring a constant declivity to carry them down; so the Sea likewise is proportionably deeper and deeper from the Shores to the Middle. So that the rising of the Earth from the Shores to the Mid-land is answerable to the descent or declivity of the bottom of the Sea from the same Shores to the Mid-Sea. This rising of the Earth from the Shores gradually to the Midland, is so considerable, that it is very likely the Altitude of the Earth in those Mid-land parts above the *Superficies* of the Sea, is greater than that of the Mountains above the level of the adjacent Lands. To the height of the Hills above the common

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Superficies of the Earth do anſwer in *Brerewood*'s Opinion the extraordinary Depths or Whirl-pools that are found in the Sea, deſcending beneath the ordinary bottom of the Sea, as the Hills aſcend above the ordinary face of the Land. But this is but a conjecture of his, and to me it ſeems not very probable, becauſe it is not likely, there ſhould be in the Sea extraordinary Depths of that vaſt length and extenſion, as thoſe huge Ridges of Mountains that run almoſt quite through the Continents. And becauſe I have obſerved the Waters of Rivers that flow gently, but eſpecially of the Sea to level the bottoms of their Channels and Receptacles, as may be ſeen in thoſe parts of the Sea whoſe bottoms are uncovered at Low-water; and in Dry-lands that have been deſerted by the Sea, as the Fens in the Iſle of *Ely*, and the *Craux* in *Provence* in *France*, *&c.* which appear to be a perfect Level, as far as one can ken. Though poſſibly the motion of the Sea may not deſcend down ſo low as thoſe Depths, and ſo may not level the bottoms of them.

Again, It is conſonant to the beſt Obſervations of the height of the Earth and its Mountains above the *Superficies* of the Sea; and of the depth of the Sea, that the one is anſwerable to the other. So *Varenius* in his

Geogr. p. 152. *Cæterùm ex observata hactenus in pleríſque locis profunditate Oceani manifeſtum eſt, eam fere æqualem altitudini ſive elevationi montium & locorum Mediterraneorum ſupra littora, nimirum quantum hæc elevantur & extant ſupra littorum horizontem, tantum alvei maris infra eum deprimuntur; ſive quantum aſſurgit terra à littoribus versùs mediterranea loca, tantundem paulatim magis magiſque deprimitur uſque ad medii Oceani loca, ubi plerúmque maxima eſt profunditas.* That is, *From the depth of the Ocean, as far as hath been hitherto obſerved in moſt places, it is manifeſt, that that* [*profundity*] *is near equal to the altitude or elevation of the Mediterraneous places above the Shores; that is to ſay, as much as theſe are elevated, and ſtand up above the Horizon of the Shores; ſo much are the Channels of the Seas depreſſed below it: or, as much as the Earth riſeth from the Shores towards the Mediterraneous places; ſo much is it by little and little more and more depreſſed to the middle parts of the Ocean, where the greateſt depth for the moſt part is.*

And *Brerewood* in his Enquiries pertinently to our purpoſe, ſuppoſeth the depth of the Sea, to be a great deal more than the height of the Hills above the common ſurface of the Earth. —"For that in making eſtimation of the depth of the Sea, we are not

not to reckon and consider only the height of the Hills above the common *Superficies* of the Earth, but the advantage or height of all the dry Land above the *Superficies* of the Sea: Because the whole Mass of the Earth, that now appeareth above the Waters, being taken, as it were, out of the place which the Waters now possess, must be equal to the place out of which it was taken; and consequently it seemeth, that the height or elevation of the one should answer to the depth or descending of the other. And therefore, as I said, in estimating the deepness of the Sea, we are not to consider only the erection of the Hills above the ordinary Land, but the advantage of all the dry Land above the Sea. Which latter, I mean the height of the ordinary Main land, is in my opinion more in large Continents above the Sea, than that of the Hills is above the Land. For that the plain and common face of the dry Land, is not level or equally distant from the Center, but hath great declivity and descent towards the Sea, and acclivity or rising toward the Mid-land part, although it appear not so to the common view of the Eye, is to reason notwithstanding manifest. Because, as it is found in that part of the Earth which the Sea covereth, that it descendeth lower and lower toward the

midst of the Sea; for the Sea which touching the upper face of it is known to be level by nature, and evenly distant from the Center, is withal observed to wax deeper and deeper the further one saileth from the Shore towards the Main) Even so in that part which is uncovered the coursings and streamings of Rivers on all sides from the Mid-land parts towards the Sea (whose property we know is to slide from the higher to the lower) evidently declare so much. *This Author with *Damascen* supposes, that the unevenness and irregularity, which is now seen in the *Superficies* of the Earth, was caused either by taking some parts out of the upper face of the Earth in sundry places to make it more hollow, & laying them in other places to make it more convex: or else (which in effect is equivalent to that) by raising up some, and depressing others to make room and receipt for the Sea: that Mutation being wrought by the Power of that Word, *Let the Waters be gathered into one place that the dry land may appear.* This proportioning of the Cavities appointed to receive the Seas, to the protuberancy of the dry Land above the common *Superficies* of the Ocean, is to me a sufficient Argument, to prove, that the gathering together of the Waters into one place, was a work of counsel and design; and

* *De fide Orthod. l.2. c.10.*

and if not effected by the immediate Finger of God, yet at leaſt governed and directed by him. So the Scripture affirms the place to receive the Sea, to have been prepared by God, *Pſalm* 104. 8. Now in things of this nature, to the giving an account whereof whatever *Hypotheſis* we can poſſibly invent, can be but merely conjectural, thoſe are to be moſt approved that come neareſt to the Letter of Scripture, and thoſe that claſh with it to be rejected, how trim or conſiſtent ſoever with themſelves they may ſeem to be: this being as much, as when God tells how he did make the World, for us to tell him how he ſhould have made it.

But here it may be objected, That the preſent Earth looks like a heap of Rubbiſh and Ruines; And that there are no greater examples of confuſion in Nature than Mountains ſingly or jointly conſidered; and that there appear not the leaſt footſteps of any Art or Counſel either in the Figure and Shape, or Order and Diſpoſition of Mountains and Rocks. Wherefore it is not likely they came ſo out of Gods hands; who by the Ancient Philoſophers is ſaid ἀεὶ γεωμετρεῖν, and to make all things in number, weight and meaſure.

To which I anſwer, That the preſent face of the Earth with all its Mountains and Hills,

Hills, its Promontories and Rocks, as rude and deformed as they appear, ſeems to me a very beautiful and pleaſant object, and with all that variety of Hills, and Valleys, and Inequalities far more grateful to behold, than a perfectly level Countrey without any riſing or protuberancy, to terminate the ſight: As any one that hath but ſeen the Iſle of *Ely*, or any the like Countrey muſt needs acknowledge. Neither is it only more pleaſant to behold, but more commodious for habitation, which is ſo plain, that I need not ſpend time to prove it.

2. A Land ſo diſtinguiſhed into Mountains, Valleys and Plains is alſo moſt convenient for the entertainment of the various ſorts of Animals, which God hath created, ſome whereof delight in cold, ſome in hot, ſome moiſt and watery, ſome in dry and upland places, and ſome of them could neither find nor gather their proper food in different Regions. Some Beaſts and Birds we find live upon the higheſt tops of the *Alps*, and that all the Winter too, while they are conſtantly covered with Snow, as the *Ibex*, and *Rupicapra* or *Chamois* among Quadrupeds, and *Lagopus* among Birds.

3. The Mountains are moſt proper for the putting forth of Plants; yielding the greateſt variety, and the moſt luxuriant ſort of Vegetables,

getables, for the maintenance of the Animals proper to those places, and for Medicinal Uses, partly also for the Exercise and delight of such ingenious persons as are addicted to search out and collect those Rarities, to contemplate and consider their Forms and Natures, and to admire and celebrate the Wisdom of their Creator.

4. All manner of Metals, Minerals and Fossils if they could be generated in a level Earth, of which there is some question, yet should they be dug or mined for, the Delfs must necessarily be so flown with Water, which to drive and rid away no *Adits* or *Soughs* could be made, and I much doubt whether Gins would suffice) that it would be extremely difficult and chargeable, if possible to work them at all.

5. Neither are the very tops of the highest Mountains barren of Grass for the feeding and fattening of Beasts. For on the ridges of the high Mountains of *Jura* and *Saleve* near *Geneva*, and those of *Rhætia* or the *Grisons* Countrey, which are the highest of all the *Alps*, excepting the *Vallesian* and *Piedmontian*, there are Multitudes of Kine fed in Summer time, as I my self can witness, having in my Simpling Voyages on those of *Jura* and *Saleve* observed Herds of Cattel there, and many Dairy Houses built, where

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I have been more than once refreshed by their Milk and Milk-Meats. Nay there are but very few, and those of the highest Summits of the *Alps* that keep Snow all Summer: and I was told by the Inhabitants, that one time or other, in seven or eight years space, for the most part there came a Summer that melted all the Snow that lay on them too.

6. Another great use and necessity of Mountains and Hills is for the Generation and Maintenance of Rivers and Fountains, which (in our *Hypothesis*, that all proceed from Rain-Water) could not be without them, or but rarely. So we should have only Torrents, which would fail in Summer time, or any dry Season, and nothing to trust to, but stagnating Water reserved in Pools and Cisterns. Which how great an Inconvenience it would be, I need not take pains to shew. I say that Fountains and Rivers would be but rare were there no Mountains. For upon serious consideration I find that I was too hasty in * concluding, because I had observed no Fountains springing up in Plains, therefore there were, or could be absolutely none; and do now grant that there is reason to believe the Relations made of such. For the whole dry Land being but one continued Mountain, and ascend-

Observat. Physical, &c.

ing all along from the Sea to the Midland, as is undeniably proved by the Descent of Rivers even in plain Countries; the Water sinking into the Earth, may run under ground, and according as the Vein leads it, break out in the side of this Mountain, tho the place as to outward appearance be a Plain.

But some may say, Granting there be some use and benefit of moderate Hills and Risings; what necessity is there of such extended Ridges of vast and towring Mountains, hiding their Heads among the Clouds, and seeming for Altitude to contend with the Skies? I answer there is very great use of them for repelling the Vapours exhaled by the Sun-beams in the hot Regions, and hindring their Evagations Northward, as we have already shewn, and shall not repeat. I might add hereto,

7. Those long Series and Chains of Mountains are of great use for Boundaries and Limits to the Territories of Princes or Commonwealths, to secure them on those parts from sudden Incursions of Enemies. As for the rudeness and confusion of Mountains, their cragged and broken Rocks and Cliffs, and whatever other Disorder there may be among them, it may be accounted for, from the manner of their first Generation,

tion, and those other mutations they have been since obnoxious to, by Earth-quakes, Eruptions of *Vulcano's*, foundering and falling in of their Props and Foundations, and by time and weather too, by which not only the Earth is washed away, or blown off from the Stones, but the very Stones and Rocks themselves corroded and dissolved, as might easily be proved by Instances, could I spare time to do it.

I should proceed now to say something concerning the rest of the Works of the Creation, but that would be too great a Task, and swell this Digression into a Volume. I shall only add, that to me it seems, That the Almighty Creator did not only at first make the various Principles of all simple inanimate Bodies, and scattered them throughout the upper Region of the Earth; but also the Seminal Principles of Animate Ones too, and dispersed them also all over the Earth and Water, and of these were the first Plants and Animals created by the Virtue of his Omnipotent Word; and after all these were spent, there remained no more Ability in those Elements to produce any Individuals, but all since them owe their their Original to Generation, God having given each *Species* power to procreate their like.

CHAP.

CHAP. VI.

Containing an Answer to the Second Question, Whether shall this Dissolution be effected by natural or by extraordinary means, and what they shall be?

AS to the Second Question, Whether shall this Dissolution be brought about and effected by natural or by extraordinary means and Instruments, and what those Means and Instruments shall be? I answer in brief, that the Instrumental Efficient of this Dissolution shall be natural. For it is clear both by Scripture and Tradition, and agreed on all Hands. that it shall be that Catholick Dissolvent, *Fire.* Now to the being and maintenance of Fire there are four things requisite. 1. The active Principle or *Æther.* 2. *Air,* or a nitrous *Pabulum* received from it: These two being commixt together, are every where at hand. 3. *Fewel,* which considering the abundance of combustible Materials, which are to be found in all places upon or under the Surface

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of the Earth, can no where be wanting. 4. The Accenſion and the ſudden and equal Diffuſion of this Fire all the World over. And this muſt be the Work of God, extraordinary and miraculous.

Such a Diſſolution of the World might indeed be effected by that natural Accident mentioned in the Anſwer to the precedent Queſtion, *viz.* The Eruption of the Central Fire. But becauſe it is doubtful, whether there be any ſuch Fire in the middle of the Earth or no: and if there ever were, it is hard to give an account, how it could be maintained in that infernal Dungeon for want of Air and Fewel. And becauſe, if it ſhould break forth in the Conſiſtency of a thin Flame, it would in all likelyhood ſpeedily like Lightening mount up to Heaven, and quite vaniſh away; unleſs we could ſuppoſe Floods, nay Seas of melted Materials, or liquid Fire, enough to overflow the whole Earth, to be poured forth of thoſe Caverns. For theſe Reaſons I reject that Opinion, and do rather think that the Conflagration ſhall be effected by a Superficial Fire. Tho I muſt confeſs we read in *Tacitus*, *Annal.* 13. at the end, of a ſort of Fire that was not ſo apt to diſperſe and vaniſh. "— The City of the *Inhonians* in *Germany* (ſaith he) confederate with us was afflicted with a ſudden

Diſaſter

Diſaſter: for Fires iſſueing out of the Earth, burned Towns, Fields, Villages every where, and ſpread even to the Walls of a Colony newly built, and could not be extinguiſhed neither by Rain, nor River-Water, nor any other Liquor that could be employed, until for want of Remedy, or anger of ſuch a Diſtraction, certain Peſants caſt Stones afar off into it; then the Flame ſomewhat ſlacking, drawing near, they put it out with Blows of Clubs, and other like, as if it had been a wild Beaſt; laſt of all, they threw in Cloaths from their Backs, which the more worn and fouler they were, the better they quenched the Fire. I uſe Dr. *Hakewil*'s Tranſlation.

CHAP. VII.

The Third Queſtion Anſwered. Whether ſhall this Diſſolution be Gradual and Succeſſive, or Momentaneous and Sudden?

3. THE Third Queſtion is, *Whether ſhall this Diſſolution be gradual and ſucceſſive, or momentaneous and ſudden?*

I anſwer, The Scripture reſolves for the latter, *The day of the Lord ſhall come as a thief in the night:* a Similitude we have often repeated in Scripture, as in the tenth Verſe of this Chapter, in 1 *Theſſal.* 15. 2 *Revel.* 3, 3. and 16. 15. And the Reſurrection and Change of Things, it is ſaid ſhall be *in a moment, in the twinkling of an eye*: 1 Cor. 15. 52. Conſonant whereto both the *Epicureans* and *Stoicks* held the Diſſolutions of the World ſhould be ſudden and brief, as *Lucretius* and *Seneca* in the places forementioned tell us. And it is ſuitable to the nature of Fire to make a quick diſpatch of things, ſuddenly to conſume and deſtroy.

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And as it ſhall be ſudden, ſo alſo ſhall it be unexpected, being compared to the coming of the Flood in the days of *Noah*, *Matth.* 24. 37, 38, 39. *But as the days of Noah were, ſo ſhall alſo the coming of the Son of man be. For as in the days that were before the flood they were eating and drinking, marrying and giving in marriage, until the day that Noah entred into the ark: And knew not until the flood came and took them all away; ſo ſhall alſo the coming of the Son of man be.* And the raining of Fire and Brimſtone upon *Sodom*, *Luke* 17. *Theſſal.* 5. 3. *For when they ſhall ſay peace and ſafety, then ſudden deſtruction cometh upon them as travail upon a woman with child.* Now if it ſhall be thus ſudden and unexpected, it is not likely there ſhould be in nature any manifeſt Tendency to it, or remarkable Signs and Forerunners of it: for ſuch muſt needs ſtartle and awaken the World into an expectation and dread of it. That there is at preſent no ſuch Tendency to Corruption, but that the World continues ſtill in as good ſtate and condition as it was two thouſand years ago, without the leaſt impairment or decay, hath been, as we before noted, without any poſſibility of contradiction clearly made out and demonſtrated by Dr. *Hakewill* in his Apology: and therefore, arguing from the paſt

to the future, it will in all likelyhood ſo continue two thouſand years more, if it be ſo long to the Day of Doom; and conſequently that day (as the Scripture predicts) will ſuddenly and unexpectedly come upon the World. But if all theſe Prophecies (as Dr. *Hammond* affirms) be to be reſtrained only to the Deſtruction of *Jeruſalem*, and *Jewiſh* Polity, without any further reſpect to the end of the World; then indeed from thence we can make no Inferences or Deductions in reference to that final Period.

CHAP.

CHAP. VIII.

The Fourth Queſtion Reſolved, Whether ſhall there be any Signs or Forerunners of the Diſſolution of the World?

4. THE Fourth Queſtion is, Whether ſhall there be any Signs or Forerunners of the Diſſolution of the World?

In order to the Anſwering of this Queſtion we ſhall diſtinguiſh Signs into natural and arbitrarious, 1. *natural* Signs, ſo the *Aurora*, or Dawning of the Day, is a Sign of the Sun-riſing. Now if the Diſſolution be effected in the courſe of Nature, and by natural Means, there will be ſome previous natural Signs of it. An old Houſe will threaten Ruin before it falls. The natural Death of Men and all Animals hath its Harbingers, and old Men before their Diſſolution feel the Impreſſion of Age; and proclaim to the World their approaching Fate by Wrinkles, Gray Hairs, and Dimneſs of Sight. But we have formerly ſhewn, that there is no Conſeneſcency or Declenſion in

Nature: but that the World continues ſtill as firm and ſtaunch as it was three thouſand years ago; and why hereafter it ſhould founder and decay more than it hath done for ſo many Ages heretofore, what reaſon can be given? It is not therefore likely there ſhould be any natural Signs of the Diſſolution of the World; and conſequently that it ſhall be effected by natural Means.

2. There are arbitrary Signs, as a Garland hung out is a Sign of Wine to be ſold. Now if the Diſſolution of the World be effected by ſupernatural and extraordinary means, (as is moſt likely) the Signs of it muſt be arbitrarious. For tho they may be natural Effects and Productions, yet would they not ſignifie the Deſtruction of the World, if they were not ordered by providence to happen at that time, and predicted as Forerunners of it; with which otherwiſe they have no natural Connexion. Such Signs are *Matth.* 24. The Sun being darkened, and the Moon not giving her Light, and the Stars falling from Heaven, and the Shaking of the Powers of Heaven. Theſe and many other Signs of his coming we find mentioned in Scripture: but what the meaning of theſe Expreſſions may be, is not ſo clear: For tho ſome of them may be taken in a Literal Senſe, yet it is manifeſt that others cannot. The Sun may indeed

indeed be ſo covered with a *Macula*, as to be quite obſcured; and thereupon the Moon neceſſarily loſe her Light, which ſhe borrows only from the Sun-beams: But how the Stars ſhould in a literal Senſe fall down from Heaven is inconceivable; it being almoſt demonſtratively certain, that moſt of them are bigger than the whole Earth. We may therefore, keeping as near as we can to the Letter, thus interpret them. There ſhall be great Signs in Heaven, diſmal Eclipſes and Obſcurations of the Sun and Moon; new Stars and Comets ſhall appear, and others diſappear, and many fiery Meteors be ſuſpended in the Air. The very Foundations of the Earth ſhall be ſhaken, and the Sea ſhall roar and make a noiſe. But I muſt not here diſſemble a great Difficulty: How can ſuch illuſtrious Signs and Forerunners be reconciled to the ſuddenneſs and unexpectedneſs of Chriſt's coming, and the end of the World? *Luke* 21. 25. After the Evangeliſt had told us, *That there ſhall be ſigns in the ſun, and in the moon; and in the ſtars — the ſea and the waves roaring*, he adds, as a Conſequent thereof, *Verſ.* 26. *Mens hearts failing them for fear, and for looking after thoſe things that are coming on the earth.* And indeed how could any Man poſſibly be buried in ſo profound a Lethargy of Senſeleſsneſs

and Security, as by ſuch ſtupendious Prodigies not to be rowſed and awakened to an expectation of ſome diſmal and tremendous Event? How could he ſing a *Requiem* to his Soul, and ſay Peace and Safety, when the World ſo manifeſtly threatens Ruin about his Ears? For the reconciling of theſe Expreſſions to this ſudden coming of our Saviour to Judgment, it were moſt convenient to accept them in the Figurative and Metaphorical Senſe. For if we underſtand them of the Ruins and Devaſtations of Cities and Countries, the Changes of Governments, the Subverſions of Kingdoms and Commonwealths, the Falls and Depoſings of Princes, Nobles and Great Men; theſe happening more or leſs in every Age, tho the ſerious and inquiſitive Chriſtian, who ſearches and underſtands the Scriptures, may diſcern them to be the Signs of the World's *Cataſtrophe*; yet the careleſs and inconſiderate, the vicious and voluptuous are not like to be at all ſtartled or moved at them, but may notwithſtanding, looking upon them as ordinary and inſignificant Accidents, *Dormire in utramque aurem*, ſleep ſecurely till the laſt Trump awaken them. Or it may be anſwered, that theſe Prophecies do belong to the Deſtruction of *Jeruſalem* only, and ſo we are not concerned to anſwer this Objection.

CHAP.

CHAP. IX.

The fifth Question answered; At what Period of Time shall the World be dissolved?

5. THE Fifth Question is, At what Period of Time shall the World be dissolved? I answer, This is absolutely uncertain and indeterminable. For since this Dissolution shall be effected by the extraordinary Interposition of Providence; it cannot be to any man known, unless extraordinarily revealed. And our Saviour tells us, that of that Day and Hour knows no man, no not the Angels of Heaven, *&c. Matth.* 24. 36. And again, *Acts* 1. 17. It is not for us to know the times and the seasons, which the Father hath placed in his own power. And this Dr. *Hakewyll* brings as an Argument, that the World decays not, neither tends to corruption; because if it did, the time of its actual Dissolution might be collected and foretold; which, saith he, the Scripure denies. We may invert this Argumentation, and infer; Because the

the World doth not decay, therefore the time of its Diſſolution cannot be known.

But yet notwithſtanding this, many have ventured to fore-tell the time of the end of the World, of whom ſome are already confuted, the term prefixt being paſt, and the World ſtill ſtanding. *Lactantius* in his time ſaid, Inſtitut. lib. 7. c. 15. *Omnis expectatio non amplius quàm ducentorum videtur annorum, The longeſt expectation extends not further than two hundred years.* The continuance of the World more than a thouſand years ſince convinces him of a groſs Miſtake. *Paulus Grebnerus* a high Pretender to a Spirit of Propheſie, ſets it in the year 1613. induced thereto by a fond conceit of the Numeral Letters in the Latin Word *Judicium*. Other Enthuſiaſtical perſons of our own Country have placed it in the years 1646. and 1656. The event ſhews how ungroundedly and erroneouſly. Others there are, whoſe term is not yet expired, and ſo they remain ſtill to be confuted. As thoſe who conceit that the end of the World ſhall be when the Pole-Star ſhall come to touch the Pole of the *Equator*, which (ſay they) ever ſince the time of *Hipparchus* hath approached nearer and nearer to it. That it doth ſo I am not ſatisfied; but if it doth, it is merely accidental, and hath no connexion with the end

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of the World. But the moſt famous Opinion, and which hath found moſt Patrons and Followers even amongſt the Learned and Pious, is that of the Worlds duration for ſix thouſand years. For the ſtrengthening of which Conceit they tell us, that as the World was created in ſix days, and then followed the Sabbath, ſo ſhall it remain ſix thouſand years, and then ſhall ſucceed the Eternal Sabbath. Heb. 4. 9. Ἄρα ἀπολείπεται σαββατισμὸς, &c. *There remains therefore a reſt or Sabbath to the people of God.* Here we ſee that the Apoſtle inſtitutes a compariſon between the heavenly reſt and the Sabbath. Therefore as God reſted upon the ſeventh day, ſo ſhall all the World of the Godly reſt after the ſix thouſandth year. *For he that hath entred into his reſt ceaſeth from all his works as God did from his.* Of this Opinion were many of the Ancient Fathers, as I ſhewed before, grounding themſelves upon this Analogy between the ſix days of the Creation and the Sabbath; and the ſix thouſand years of the Worlds duration, and the eternal reſt; For ſaith *Irenæus* lib. 5. cap. ult. *Hoc autem* (that is, the Hiſtory of the ſix days Creation and ſucceeding Sabbath) *eſt & præteritorum narratio, & futurorum prophetia. Dies enim unus mille annos ſignificat, ſicut Scriptura teſtatur:* 2 Pet. 3. 8. Pſal. 90. 4.

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the Scriptures reckoning days of one thouſand years long, as in *verſe* 8. of this Chapter, and in *Pſal.* 90. 4. This is likewiſe a received Tradition of the *Jewiſh Rabbins*, regiſtred in the *Talmud*, in the Treatiſe *Sanhedrim*, delivered (as they pretend) by the Prophet *Elias* the *Tiſhbite* to the Son of the Woman of *Sarepta*, whom he raiſed from the dead, and by him handed down to Poſterity. I rather think with *Reuterus*, that the Author of it was ſome *Rabbi* of that name. The Tradition is, *Sex millia annorum erit mundus: & uno millenaria veſtatio* i. e. *Sabbathum Dei: Duo millia inane: Duo millia Lex: Duo millia dies Meſſiæ. Two thouſand years vacuity: Two thouſand years of the Law: Two thouſand years the days of the Meſſiah.* But they ſhoot far wide: For according to the leaſt account, there paſſed a far greater number of years before the Law was given, 2513. ſaith *Reuterus*, and on the contrary leſs time from the Law to the Exhibition of the Meſſiah. All theſe Proofs laid together do ſcarce ſuffice to make up a probability. Neither do thoſe Rabbinical Collections from the ſix Letters in בראשית the firſt word of *Geneſis*, or from the ſix *Alephs* in the firſt Verſe of that Book, each ſignifying a thouſand years; or from the ſix firſt Patriarchs in the order of the Genealogy

logy to *Enoch*, who was caught up to Heaven and found no more, add much weight to this Opinion. S. *Austin* very modestly concludes after a discussion of this Point concerning the time of the Worlds duration, *Ego tempora dinumerare non audeo: nec aliquem prophetam de hac re numerum annorum existimo præfiniviſſe. Nos ergo quod ſcire noſ Dominus noluit libentèr neſciamus.*

But though none but presumptuous persons have undertaken peremptorily to determine that time, yet was it the common and received Opinion and Perswasion of the Ancient Christians, that that day was not far off: and had they been to limit it, they would hardly have been induced to set the term so forward, and remote from their own Age, as by experience we find it proves to be in their own times, or shortly after; and many places of Scripture seem to favour that Opinion, so that some have presumed to say, that the Apostles themselves were at first mistaken in this particular, till after further illumination they were better informed. But though this be too bold a Conceit, yet that the Churches, at least some of them, did at first mistake the Apostles meaning in their Sermons and Epistles concerning this Point, and so understand them, as to think that the end of the World and final Judgment

ment was at hand, appears from 2 Theſſ. 2. *I beſeech you, Brethren, that ye be not ſoo ſhaken in mind, or be troubled, neither by Spirit, nor by word, nor by letter, as from us, that the day of Chriſt is at hand.* We ſee the Apoſtle labours to rectifie, and for the future to prevent this Miſtake: ſo likewiſe the Apoſtle *Peter* in the 8th and 9th Verſes of this Chapter. And yet this Opinion had taken ſuch deep root in them, that it was not eaſie to be extirpated, but continued for ſome Ages in the Church. Indeed there are ſo many places in the New Teſtament which ſpeak of the coming of Chriſt as very near that if we ſhould have lived in their time and underſtood them all as they did, of his coming to judge the World, we could hardly have avoided being of the ſame Opinion. But if we apply them (as Dr. *Hammond* doth) to his coming to take vengeance on his enemies, then they do not hinder, but that the Day of Judgment, I mean the general Judgment, may be far enough off. So I leave this Queſtion unreſolved, concluding that when that day will come God only knows.

CHAP.

CHAP. X.

How far this Conflagration ſhall extend.

6. A Sixth Queſtion is, How far ſhall this Conflagration extend? Whether to the Ethereal Heavens, and all the Hoſt of them, Sun, Moon and Stars, or to the Aereal only?

I anſwer, If we follow Ancient Tradition not only the Earth, but alſo the Heavens and heavenly Bodies will be involved in one common fate, as appears by thoſe Verſes quoted out of *Lucretius*, *Ovid*, *Lucan*, &c.

Of Chriſtians ſome exempt the Ethereal Region from this Deſtruction: for the two following Reaſons, which I ſhall ſet down in *Reuterus*'s words. 1. Becauſe in this Chapter the Conflagration is compared to the Deluge in the time of *Noah*. But the Deluge extended not to the upper Regions of the Air, much leſs to the Heavens, the Waters ariſing only fifteen Cubits above the tops of the Mountains, if ſo much. Therefore neither ſhall the Conflagration tranſcend that term.

term. So *Beza* upon 2 Pet. 3. 6. *Tantum aſcendet ille ignis quantum aqua altior ſupra omnes montes. That fire ſhall aſcend as high as the Waters ſtood above the Mountains.* This paſſage I do not find in the laſt Edition of his Notes. The ordinary Gloſs alſo upon theſe words, 2 Theſſ. 1. 2. *In flaming fire rendring vengeance,* ſaith, *Chriſtum venturum præcedet ignis in mundo, qui tantum aſcendet quantum aqua in diluvio. There ſhall a fire go before Chriſt when he comes, which ſhall reach as high as did the Water in the Deluge.* And S. *Auguſtine* De Civit. Dei lib. 20. cap. 11. *Petrus etiam commemorans factum ante diluvium, videtur admonuiſſe quodammodo, quatenus in fine hujus ſeculi iſtum mundum periturum eſſe credamus.* Peter *alſo mentioning the Ancient Deluge, ſeems in a manner to have adviſed us how far at the conſummation of time, we are to believe this World ſhall periſh.*

But this Argument is of no force, becauſe it is not the Apoſtles deſign in that place to deſcribe the limits of the Conflagration, but only againſt Scoffers, to ſhew, that the World ſhould one day periſh by Fire, as it had of old been deſtroyed by Water.

2. The ſecond reaſon is, becauſe the Heavenly Bodies are not ſubject to paſſion, alteration or corruption. They can con-

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tract no filth, and so need no expurgation by Fire.

To this we answer, not in the words of *Reuter*, but our own, That it is an idle and ill grounded conceit of the *Peripateticks*, That the Heavens are of their own nature incorruptible and unalterable: for on the contrary it is demonstrable, that many of them are of the same nature with the Earth we live upon, and the most pure, as the Sun, and probably too the Fixt Stars, suffer Alterations; *maculæ* or opaque Concretions being commonly generated and dissolved in them. And *Comets* frequently, and sometimes *New Stars* appear in the Etherial Regions. So that these Arguments are insufficient to exempt the Heavens from Dissolution; and on the other side many places there are in Scripture which seem to subject them thereto: As *Psal.* 102. 25, 26. recited *Heb.* 1. 10. which hath already often been quoted, *The heavens are the works of thy hands, They shall perish.* Mat. 24. 35. *Heaven and Earth shall pass away.* Isa. 65. 17. & 51. 6. *The Heavens shall vanish away like smoke.* Yet am I not of opinion, that the last Fire shall reach the Heavens; They are too far distant from us to suffer by it; nor indeed doth the Scripture affirm it: but where it mentions the Dissolution of the Heavens, it expresses it by

ſuch Phraſes as ſeem rather to intimate, that it ſhall come to paſs by a conſeneſcency and decay, than be effected by any ſudden and violent means. Pſal. 102. 25, 26. *They all ſhall wax old as doth a garment*, &c. Though I confeſs nothing of Certainty can be gathered from ſuch expreſſions; for we find the ſame uſed concerning the Earth. Iſa. 51. 6. *The Heavens ſhall vaniſh away like ſmoke, and the Earth ſhall wax old as doth a garment.* The heavenly Bodies are none of them uncorruptible and eternal; but may in like manner as the Earth be conſumed and deſtroyed, at what times and by what means, whether Fire or ſome other Element, the Almighty hath decreed, and ordered.

CHAP.

CHAP. XI.

Whether ſhall the Whole World be conſumed and annihilated, or only refined and purified?

THere remains now only the Seventh Queſtion to be reſolved, Whether ſhall the World be wholly conſumed, burnt up and deſtroyed, or annihilated; or only refined, purified or renewed? To this I anſwer, That the latter part ſeems to me more probable, *viz.* That it ſhall not be deſtroyed and annihilated, but only refined and purified. I know what potent Adverſaries I have in this caſe. I need name no more than *Gerard* in his Common Places, and Dr. *Hakewil* in his Apology and the Defence of it, who contend earneſtly for the Abolition or Annihilation. But yet upon the whole matter, the Renovation or Reſtitution ſeems to me moſt probable, as being moſt conſonant to *Scripture*, *Reaſon* and *Antiquity*. The Scripture ſpeaks of an ἀποκατάστασις or Reſtitution, *Acts* 3. 21. *Whom the Heavens muſt*

contain until the time of the reſtitution of all things. Speaking of our Saviour: and παλιγγενεσία or Regeneration of the World, the very Word the *Stoicks* and *Pythagoreans* uſe in this caſe, Matth. 19. 28, 29. *Verily, I ſay unto you, That ye which have followed me, in the regeneration, when the Son of man ſhall ſit on the Throne of his glory, ye alſo ſhall ſit upon twelve Thrones,* &c. Pſal. 102. 26. *As a veſture ſhalt thou change them, and they ſhall be changed.* Which words are again taken up and repeated, *Heb.* 1. 12. Now it is one thing to be changed, another to be annihilated and deſtroyed. 1 *Cor.* 7. 31. παράγει τὸ σχῆμα τοῦ κόσμου τούτου. *The faſhion of this World paſſeth away.* As if he had ſaid, It ſhall be transfigured, or its outward form changed, not its matter or ſubſtance deſtroyed. Iſa. 65. 17. *Behold I create new Heavens and a new Earth, and the former ſhall not be remembred, nor come into mind.* Iſa. 66. 22. As *the new Heavens and new Earth, which I ſhall make, ſhall remain before me.* To which places the Apoſtle *Peter* ſeems to refer in thoſe words, 2 Pet. 3. 13. *Nevertheleſs we, according to his promiſe, look for new Heavens, and a new Earth,* wherein dwelleth righteouſneſs. This new Heaven and new Earth we have alſo mentioned, Rev. 21. 1. *And I ſaw a new Heaven and a new*

Earth

Earth: for the first Heaven and the first Earth were passed away, and there was no more Sea. These places, I confess, may admit of an Answer or Solution by those who are of a contrary Opinion, and are answered by Doctor *Hakewil*: yet all together, especially being back'd by ancient Tradition, amount to a high degree of probability. I omit that place, *Rom.* 8. 21, 22. *The creature it self also shall be delivered from the bondage of corruption into the glorious liberty of the sons of God:* tho it be accounted the strongest proof of our Opinion, because of the obscurity and ambiguity thereof.

2. For Antiquity, I have already given many Testimonies of the ancient Fathers and Doctors of the Church, and could, if need were, produce many more, the whole stream of them running this way. And tho Dr. *Hakewill* saith, that if we look back to higher times before S. *Hierome*, we shall not easily find any one who maintained the World's Renovation: yet hath he but two Testimonies to alledge for its Abolition; the one out of *Hilary* upon the Psalms, and the other out of *Clemens* his *Recognitions*. To this Restitution of the World after the Conflagration many also of the Heathen Philosophers bear witness; whose Testimonies Mr. *Burnet* hath exhibited in his *Theory* of

the *Earth*, *lib.* 4. cap. 5. Of the Stoicks, *Chrysippus de Providentia*, speaking of the Renovation of the World, saith, Ἡμᾶς μετὰ τὸ τελευτῆσαι, πάλιν περιόδων κνῶν εἰλημμένων χρόνου, εἰς ὃ νῦν ἐσμὲν ἀποκαταστήσεσθαι σῶμα. *We after death, certain Periods of time being come about, shall be restored to the form we now have.* To *Chrysippus Stobæus* adds *Zeno* and *Cleanthes*, and comprehends together with Men all natural things, Ζήνωνι καὶ Κλεάνθει, καὶ Χρυσίππῳ ἀρέσκει τὴν οὐσίαν μεταβάλλειν, οἷον εἰς σπέρμα, τὸ πῦρ· καὶ πάλιν ἐκ τούτου τοιαύτην ἀποτελεῖσθαι τὴν διακόσμησιν ὁία πρότερον ἦν. Zeno *and* Cleanthes *and* Chrysippus *were of opinion, That the Nature or Substance of things changes into Fire, as it were into a Seed; and out of this again, such a World or Frame of Things is effected as was before.* This Revolution of nature *Antoninus* in his Meditations often calls τὴν περιοδικὴν παλιγγενεσίαν τῶν ὅλων, *The Periodical Regeneration of all things.* And * *Origen* against *Celsus* saith of the *Stoicks* in general, Φασὶ δὲ οἱ ἀπὸ τῆς στοᾶς κατὰ περίοδον ἐκπύρωσιν τοῦ παντὸς γίνεσθαι, καὶ ἑξῆς αὐτῇ διακόσμησιν πάντ' ἀπαράλλακτα ἔχουσαν ὡς πρὸς τὴν ἑτέραν διακόσμησιν. The *Stoicks* say, *That at certain Periods of time there is a Conflagration of the Universe; and after that a Restitution thereof having exactly the same*

‖ *Apud Lactant. l.* 7. *c.* 23.

* *Lib.* 5.

Disposition

Disposition and Furniture the former World had. More to the like purpose concerning the *Stoicks*, we have in † *Eusebius* out of *Numenius*. *Nature*, saith he, *returns* εἰς τὴν ἀνάστασιν ἐκείνην τὴν ποιοῦσαν ἐνιαυτὸν τὸν μέγιστον, καθ' ὃν ἀπ' αὐτῆς μόνης εἰς αὐτὴν πάλιν γίνεται ἡ ἀποκατάστασις· ἐπανελθοῦσα δὲ κατὰ τάξιν ἀφ' οἵας διακοσμεῖν ὡσαύτως ἤρξατο, καὶ λόγον πάλιν τὴν αὐτὴν διεξαγωγὴν ποιεῖται, τῶν τοιούτων περιόδων ἐξ αἰδίου γενομένων ἀκαταπαύστως· *to the Resurrection which makes the Great Year, wherein there is again a restitution made from it self alone to it self. For returning according to the order wherein it began first to frame and dispose things, (as reason would) it again observes the same Oeconomy or Administration; the like Periods returning eternally without ceasing.* He that desires more Authorities of the Heathen Philosophers and Poets in confirmation of the World's Restitution after the Conflagration, may consult the same Mr. *Burnet* in the place forequoted; where he also shews, that this Doctrine of the Mundane Periods was received by the *Grecians* from the Nations they call barbarous. *Pythagoras*, saith *Porphyry*, brought it first into *Grece*: and *Origen* witnesseth of the *Egyptians* Wise Men that it was delivered by them. *Laertius* out of *Theopompus* relates,

† *Præp. Evang. l.* 15.

That the *Perſian Magi* had the ſame Tradition: and *Beroſus* ſaith that the *Chaldeans* alſo. In fine, among all the Barbarous Nations, who had among them any Perſon or Sect, and Order of Men, noted for Wiſdom or Philoſophy this Tradition was current. The Reader may conſult the Book we refer to, where is a notable Paſſage taken out of *Plutarch*'s Tractate, *De Iſide & Oſiride*, concerning a War between *Oromazes* and *Arimanius*, ſomewhat parallel to that mentioned in the Revelation between *Michael* and the *Dragon*.

3. The Reſtitution of the World ſeems more conſonant to Reaſon than its Abolition. For if the World were to be annihilated, what needed a Conflagration? Fire doth not deſtroy or bring things to nothing, but only ſeparate their parts. The World cannot be aboliſhed by it, and therefore had better been annihilated without it. Wherefore the Scripture mentioning no other Diſſolution than is to be effected by the Inſtrumentality of Fire, its clear, we are not to underſtand any utter Abolition or Annihilation of the World, but only a Mutation and Renovation, by thoſe Phraſes of *periſhing*, *paſſing away*, *diſſolving*, *being no more*, &c. They are to be no more in that ſtate and condition they are now in.

2. There

2. There must be a material Heaven, and a material Hell left. A place for the glorified Bodies of the Blessed to inhabit and converse in; and a place for the Bodies of the Damned, a κολαστήριον or Prison for them to be shut up in. Now if the place of the Blessed be an Empyreal Heaven far above these visible Heavens, as Divines generally hold; and the place of the Damned be beneath, about the middle of the Earth; as is the Opinion of the Schoolmen, and the Church of *Rome*, and as the name *Inferi* imports, and as the ancient Heathen described their *Tartarus*,

——εἰς τάρταρον ἠερόεντα Hom. Il.
Τῆλε μάλ' ὅσσον τε βάθιστον ἔσω χθονός ἐστι βέρεθρον,
Τόσσον ἔνερθ' Ἀΐδεω ὅσον οὐρανὸς ἐστ' ἀπὸ γαίης.

Then when all the intermediate Bodies shall be annihilated, what a strange Universe shall we have? Consisting of an immense Ring of Matter, having in the middle, a vast vacuity, or space void of all Body, save only one small point for an infernal Dungeon. Those that are of this Opinion have too narrow and mean thoughts of the Greatness, I had almost said Immensity of the Universe, the glorious

glorious and magnifick Products of the Creator's Almighty Power: and are too partial to themſelves, to think the whole World was created for no other end but to be ſerviceable to Mankind: but of this I have ſaid ſomewhat in a former Diſcourſe, and therefore ſhall not at preſent enlarge upon it.

But let us hear what they have to ſay for the *Abolition*.

Hakewil's Apol. l. 4. c. 13. ſect. 5.

Their firſt and moſt weighty Argument is taken from the *End of the World's Creation*, which was partly and chiefly the Glory of the *Creator*, and partly the uſe of Man, the Lord Deputy, as it were, or *Viceroy* thereof. Now for the *Glory* of the *Creator*, it being by the admirable Frame of the World manifeſted unto Man, Man being removed out of the World, and no Creature being capable of ſuch a Manifeſtation beſides him, we cannot imagine to what purpoſe the Frame it ſelf ſhould be left, and reſtored to a more perfect Eſtate. The other *End*, being for *Man's Uſe*, either to ſupply his Neceſſity in matter of Diet, of Phyſick, of Building, of Apparrel; or for his Inſtruction, Direction, Recreation, Comfort and Delight; or laſtly, that therein, as in a Looking-Glaſs he might contemplate the Wiſdom, the Goodneſs and Power of God: when he ſhall attain that Bleſſed Eſtate, as he ſhall have no further

uſe

ſe of any of theſe, enjoying perfect Hap-
neſs and ſeeing God as he is, face to face,
he ſecond or ſubordinate End of the World's
eing muſt needs be likewiſe fruſtrate. And
hat other End can be given or conceived
or the remaining or reſtoring thereof? &c.

To this I anſwer, there may be an end of
he reſtoring of the VVorld, tho we are not
ble to find out or determine what. VVe
re too ſhort ſighted to penetrate the Ends
f God. There may be a new Race of ratio-
al Animals brought forth to act their parts
pon this Stage, which may give the Crea-
or as much Glory as Man ever did or could.
nd yet if there ſhould be no Material
nd viſible rational Creature made to inha-
it the Earth, there are ſpiritual and intel-
ectual Beings, which may be as buſie, and
s much delighted in ſearching out and con-
emplating the VVorks of God in this new
arth, and rendring him the Praiſe of his
Viſdom and Power as Man could be. Theſe
hings we may conjecture; but we muſt
ave it to the only wiſe God to determine
hat uſe ſhall be made of it. It ſeems to me
o be too great preſumption, and over-valuing
ur ſelves to think that all this VVorld was
made for us, as to have no other end of its
reation; or that God could not be glorified
ut by us.

This

This firſt and principal Argument being anſwered, the ſecond admits of an eaſie Solution. They enquire whether the Vegetables and Creatures endued with Senſe ſhall all be reſtored, or ſome only? namely ſuch as ſhall be found in being at the Day of Judgment. If all, where ſhall we find Stowage for them? Surely we may in this caſe properly apply that which the Evangelist in another uſeth figuratively, if they ſhould all be reſtored, even the VVorld it ſelf could not contain the things which ſhould be reſtored. If ſome only, then would I gladly know, why thoſe ſome ſhould be vouchſafed this great Honour, and not all, or how thoſe Creatures without a Miracle ſhall be reſtrain'd from propagating and multiplying, and that infinitely in their kinds by a perpetual Generation. Or laſtly, How the ſeveral Individuals of theſe kinds, ſhall contrary to their primitive natures, live and dure Immortality?

To all this I anſwer, That not only all Animals, but all Vegetables too, yea and their Seeds alſo, will doubtleſs be mortified and deſtroyed by the violence of the Conflagration; but that the ſame ſhould be reſtored, and endued with eternal life, I know no reaſon we have to believe; but rather that there ſhall be new ones produced either

either of the same with the former, or of different kinds, at the will, and by the power of the Almighty Creator, and for those Ends and Uses for which he shall design them. This Question being answered in this manner, all that follows concerning the Earth remaining without any Furniture or Inhabitants, *&c.* falls to the Ground. So I have dispatch'd these seven Questions concerning the Dissolution of the World, there remains now only the Inference or Use of the precedent Doctrine.

CHAP.

CHAP. XII.

The Apostles Inference from the precedent Doctrine.

I Come now to the *Inference* the Apostle makes from the precedent Doctrine, *What manner of persons ought we to be in all holy conversation and godliness?* One word here needs a little explication, and that is *holy*; What is meant by a *holy* conversation.

Holiness is an Equivocal Term. It is attributed either to God, or to the Creature. When it is attributed to God, it signifies either,

1. The unspotted Purity of his Nature and the constant and immutable rectitude of his Will. So it is taken 1 John 3. 3. *every man that hath this hope in him purifieth himself as he is pure:* and 1 Pet. 1. 15. *he which called you is holy, so be ye holy in all manner of conversation: Because it is written, be ye holy for I am holy.* Psal. 145. 17. *The Lord is righteous in all his ways, and holy in all his works.*

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2. His Sovereign Majesty and Greatness, appearing in his transcendent Wisdom and Power, in his Supreme and Absolute Dominion over all things: in respect whereof, he is called the *Holy One of Israel*, and his *Name* is said to be *Holy*: that is, to be invoked with the greatest reverence. *Holy and reverend is his name.* Because of this his Greatness and Excellency he is to be worshipped and adored with the most submissive humility and veneration, with a transcendent and incommunicable Worship and Devotion.

When Holiness is attributed to Creatures, it signifies either an Inherent and Inward or a Relative or Outward, Holiness.

1. Inherent or Inward Holiness is a Conformity of Heart and Life to the Will of God: or as * others define it, An habitual frame of mind, whereby we are fitted for vertuous Actions, but more especially for the Duties of Religion: Indeed Holiness doth always include a reference to God.

* *Bishop Wilkin's Univers. Charact.*

2. Relative or Outward Holiness results from a Separation and setting a part any thing from a prophane and common, and applying it to a Sacred or Religious use. For the Majesty of God, who at first created, and continually sustains and governs all things, being so great and inviolable, all persons, things,

things, and times, and places, and Ceremonies ſeparated and appropriated to his Service and Worſhip, are by all Nations eſteemed Sacred, and to have a Character of Holineſs imprinted on them.

By Holineſs in this place, is to be underſtood an *inherent* Holineſs, which is well de-
De Sacrif. l. 1. c. 1. fined by Dr. *Outram*, A Conformity of heart and life to the Will of God. I ſhall not diſcourſe at large concerning a holy Converſation, nor inſtance particulars wherein it conſiſts. That would be to write a Body of Practical Divinity: I ſhall therefore at preſent ſuppoſe the Reader ſufficiently inſtructed in that. My buſineſs ſhall be to ſhew the ſtrength of the Apoſtles Inference.

It may be ſaid, How doth this Diſſolution concern us, who may perchance be dead and rotten a thouſand years before it comes? What have we to do with it?

I anſwer, It concerns us, 1. Becauſe it is poſſible it may happen in our times; it may ſurpriſe us before we are aware. The preciſe time thereof is uncertain. And it will be ſudden and unexpected, coming as a Thief in the night, as we have before ſhewn; therefore we ought always to be upon our guard, to *have our loins girt about and our lights burning*. This uſe the Scripture in many places makes of the uncer-

tainty of the time of Chriſts coming. Luke 12.40. *Be ye therefore ready: for the Son of Man cometh at an hour when ye think not.* Luke 21.34, 35. *And take heed to your ſelves, leſt at any time your hearts be overcharged with ſurfeiting and drunkenneſs and cares of this life, and ſo that day come upon you unawares. For as a ſnare ſhall it come on all them that dwell on the whole Earth.* Parallel whereto are *Matth.* 24. 42. and *Mark* 13. 33, 35. That it ſhall come is certain, when it ſhall come is uncertain, and it every day draws nearer and nearer, therefore it is not wiſdom to remove the evil day far from us: and as in reference to the day of death, it is an uſual and prudent advice, ſo to live every day, as if it were our laſt day; or at leaſt, as we would not be afraid to do ſhould it be ſo: becauſe we are ſure, that one day will be our laſt, and for ought we know the preſent may be it: ſo likewiſe is it rational counſel in reſpect of the End of the World, to prepare our ſelves for it by a holy converſation, that we may get above the terror and dread which will otherwiſe attend the apprehenſion of the approach of it; and that we may be provided againſt the worſt that may follow; and be ſecure come what can come.

Secondly, It concerns us, ſhould it be a thouſand years to come, Becauſe then is the general Reſurrection both of the juſt and unjuſt, *Acts* 24. 15. and the general Judgment, *When we muſt all appear before the dreadful tribunal of Chriſt, that every one may receive the things done in his body, according to that he hath done, whether it be good or bad.* 2 *Cor.* 5. 10. which, *Rom.* 2. 5. is called *the revelation of the righteous judgment of God, Who will render to every man according to his deeds*, &c. Upon this account, I ſay, it concerns us much how we have our converſation here.

I. First, As we hope to be acquitted at that day, and to enter into thoſe new Heavens in which dwells righteouſneſs, Holineſs is a neceſſary condition and antecedent to happineſs. Neceſſary I ſay.

1. By Gods appointment, *Heb.* 12. 14. *Follow peace with all men, and holineſs, without which no man ſhall ſee the Lord.* Rom. 6. 22. *Have your fruit unto holineſs, and the end eternal life.* Pſal. 50. ult. *To him that ordereth his converſation aright, will I ſhew the ſalvation of God.* Eternal life is the gift of God. He is not obliged to beſtow it upon any man. He may make what conditions he pleaſes for the obtaining of it. He

man hath any right to it; No man can lay any claim to it, but from this donation, and from the performance of these conditions. Rev. 22. 14. *Blessed are they that do his commandments, that they may have right to the tree of life, and may enter in through the gates into the City. For without are dogs and whoremongers and sorcerers*, &c. All the right they have depends upon Gods promise, which is conditionate, and accrues to them by the performance of the condition, which is the doing of his Commandments.

2. Necessary not only by Gods appointment, but in the very nature of the thing. Holiness is the very quality and complexion of Heaven. No man without it is qualified to be a subject of that Kingdom: For thereinto nothing that is impure or unclean can enter. Revel. 21. 27. *And there shall in no wise enter into it* [the new Jerusalem] *any thing that defileth, neither whatsoever worketh abomination.* In this *new Heaven dwelleth righteousness*, 2 Pet. 3. 15. Therefore 1 John 3. 3. *Every man that hath this hope in him purifieth himself as he is pure.* Heaven would naturally spue out and eject a wicked person, as one heterogeneous to it. Heaven and Hell are not more distant in place, than they are in nature. There is

not more antipathy between fire and water, between light and darkneſs, between ſtreight and crooked, neither are they more incompatible, or do more naturally reſiſt and expel one another, than holineſs which is the quality of Heaven, and wickedneſs which is the diſpoſition and temper of Hell. Some do think Heaven to be rather a ſtate, than a place; and that he that is partaker of the Divine Nature hath Heaven within him. This is true, but this is not all. The whole notion of Heaven comprehends both a ſtate and a place. A man muſt be in a heavenly ſtate, before the local Heaven can receive him, or he brook it. Heaven without him would be no Heaven to the man who hath not Heaven within him. A wicked perſon could find no buſineſs or employment in Heaven; nothing to ſatisfie his corrupt and depraved affections, inclinations, and appetites. He would there meet with no ſuitable company; no perſons whoſe converſation he could take any delight and complacency in, but rather hate and abhor. *For what fellowſhip hath righteouſneſs with unrighteouſneſs? or what communion hath light with darkneſs?* 2 Cor. 6. 14. Like naturally loves like, and unites with it, and doth refuſe, reſiſt, and hate that which is unlike it. For every thing is made to love it ſelf; and conſequently every

thing

thing that reſembles and comes near it, and is as it were a replication of it; and to hate the contrary. As therefore we would be glad to be Partakers of the bleſſedneſs of the local Heaven, ſo let us endeavour to get into our Minds and Spirits the qualities and conditions of Heaven; that ſo we may be fit Subjects for that Kingdom, fit companions for that Society. *This is the time allotted us to purifie our ſelves from all filthineſs both of fleſh and ſpirit, and to perfect holineſs in the fear of God.* There is no invention in the grave whither we are going, *Eccleſ.* 9. 10. *Upon this moment depends eternity. As the tree falls ſo it lies*; and as Death leaves, ſo will Judgment find us. *Quando iſthinc exceſſum fuerit, nullus jam locus pœnitentiæ eſt. Hîc vita aut amittitur, aut tenetur: Hîc ſaluti æternæ cultu Dei & fructu fidei providetur.* Cyprian. Serm. de Immortal. *After we ſhall depart hence there remains no more place for repentance. Eternal life is here, either loſt or won. Here proviſion is made for everlaſting ſalvation by the worſhip of God, and fruit of faith. We muſt work while it is day, the night* [of death] *cometh wherein no man can work.* John 9. 4. And therefore the time our bodies ſhall reſt in the grave, ſhould it be a thouſand years, will little avail us: for if the ſoul be mean while awake,

the certain and dreadful expectation of the Sentence of Condemnation to an eternal Hell at the Day of Judgment, will be little leſs afflictive than the Torments thereof themſelves. I might add by way of Digreſſion that Sin and Wickedneſs is naturally productive of Hell in the Soul. A wicked Man carries Hell in his Breaſt. Sin neceſſarily infers Miſery: It is contrary to the nature of the Soul, and whatſoever is ſo muſt needs be grievous. Diverſion and Non-Attention to his Condition is the wicked Man's only Security: I have heard it often from a * great Divine in his Sermons, *That there is but a Thoughts Diſtance between a wicked Man and Hell.* For do but fix and bind his Thoughts to the Conſideration of his Life and Actions, and he will anticipate Hell himſelf, he ſhall need no infernal Furies to laſh him, he will be his own Tormentor: ſuch a Man's Preſſures will be heavy enough, ſhould the Divine *Nemeſis* ſuperadd no more. The Reaſon of this I have given in a former Diſcourſe, and therefore ſhall now omit what elſe might have been added on this particular.

* Doctor *Wichcot.*

II. Secondly, It much concerns us, upon account of the future Judgment which ſhall be at the Diſſolution of the World, to have our Converſation

Converſation in all Holineſs, as we deſire to avoid that Shame and Miſery which will then otherwiſe certainly befall us.

1. As we deſire to avoid that ſhame which will cover our Faces at that day. If here Shame and Diſgrace be more grievous and inſupportable than Death it ſelf, what will it be then, when the Soul ſhall be rendred more quick and apprehenſive and ſenſible of ſuch Impreſſions? There is nothing ſhameful but ſin, nothing elſe hath any natural Turpitude in it. Shame follows Sin as the Shadow doth the Body: He that will commit the one cannot avoid the other. Therefore ſuch wicked perſons as have not quite renounced Modeſty, and loſt all Senſe of Shame, eſpecially if guilty of ſecret Crimes, the Conſideration of a future Judgment would be a powerful Curb to reſtrain them from Sin for the future: becauſe then *God will* produce and *bring to light the hidden things of darkneſs, and diſcloſe and make manifeſt the counſels of all hearts*: 1 Cor. 4. 5. Then *he will judge the ſecrets of men by Jeſus Chriſt*. Rom. 2. 16. *Then will he bring every work into judgment, with every ſecret thing*, Eccleſ. 12. 14. For would they but conſider and ponder what Confuſion will overwhelm them when this ſhall be done in the face of the whole World, and before all

that knew them, and they not able to make any denyal, or excuſe. This, I ſay, if any thing, would be a powerful Curb to withhold them from thoſe Enormities to which this ſhame is appendant. It may be thou madeſt a great Figure in the World for Piety and Religion, wouldſt ſeem to be ſome Body in the Eyes of Men, when thou wert falſe and unſound, didſt harbour and nouriſh ſome Viper in thy Boſom,

Introrſum turpis, ſpecioſa pelle decorus:

When thy ſecret Faults ſhall be expoſed before thy Neighbours, and Friends, and Children, *And the ſhame of thy nakedneſs ſhall be made to appear*, Revel. 3. 18. How wilt thou then be confounded, and aſtoniſhed, and unable to lift up thy Head? What horrour will then ſeize thee, *When thy confuſion ſhall be continually before thee, and the ſhame of thy face ſhall cover thee?* Pſalm 44. 15. It concerns thee therefore to look about thee in time, and ſearch thy Conſcience to the Bottom, to remove whatever grates, to caſt out whatever offends, tho never ſo cuſtomary, never ſo pleaſing to Fleſh and Blood: to apply thy ſelf to the Merits and Satisfaction of *Chriſt Jeſus* for the Expiation of what is paſt; and for the future

future to resolve and endeavour the amendment of whatsoever hath heretofore been amiss in thee; and to beg the assistance of the Divine Grace to strengthen in thee every good purpose and resolution of heart, and to enable thee to bring it to issue and effect. And for thy security, I think it good advice, to resolve so to behave thy self in thy retirements, so to live in the secret of thy Chamber and Closet, as though the doors were thrown open upon thee, and all the eyes of the World beheld thee; as though thou were't in the *Arena* of a publick Theatre exposed to the view of Men and Angels. I remember the Ingenious Writer of Politick Discourses *Boccalini*, doth often divert himself and his Reader with facetious Reflections upon the contrivance of a Window into the Breast; which, if I mistake not, he fathers upon *Lipsius*. However he may deride it, I think it would be prudent counsel to give and take, for every Christian. So to live and carry it in the secret of his heart, as if there were a Window into his Breast, that every one that passed by, might look in thereat, and see all the thoughts and imaginations that passed there, that found any entertainment or acceptance with him. For though indeed *God searches the hearts and reins, and understandeth our thoughts afar off,*

off, Pſal. 139. 2. Yet ſuch is the hypocriſie of mankind, that they do for the moſt part more reverence the eyes of men, than of God; and will venture to do that in his preſence, which they would be aſhamed the eyes of man ſhould ſee them doing. You will ſay, Is it not better to be modeſt, than to be impudent? Is it not better to conceal, than to publiſh ones ſhame? Is it not better to reverence man, than neither God nor man? Doth not the Scripture condemn a Whores fore-head? Is it not a true Proverb, *Paſt Shame, paſt Grace?* Was it not good advice of a Cardinal (as I remember) *Si non caſtè tamen cautè?* He that hath devoured ſhame, what bridle is there left to reſtrain him from the worſt of evils? I anſwer, That it ſeems indeed to me, that publick ſins of the ſame nature, are more heinous than ſecret; and that impudence in ſinning, is an aggravation of the ſin. For open ſins dare God, and bid defiance to Heaven, and leave the ſinner unreclaimable, and are of more pernicious influence. I do not now ſpeak of the hypocriſie of feigning holineſs to ſerve our own ends, which is rightly eſteemed *duplex iniquitas*, but that of concealing and hiding vicious actions, to avoid the ſhame of men. And yet there is a great obliquity in this too. Becauſe even this is a ſlighting and undervalu-

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ing of God, a preferring of man before him, setting a greater price and esteem upon the praise and commendation of men, than the praise and approbation of God. *John* 12. 43. God sees the secretest actions, yea, the most retired thoughts. They that believe this, and yet make bold to do in his presence, what the fear of man's eye would restrain them from, it is clear that they reverence man more than God, a poor, frail, impotent Creature like themselves, more than the most pure and ever blessed Creator. Nay, let the temptation to any sin be never so strong, and the natural inclination never so vehement, if the knowledge and conscience of men be a motive and consideration powerful enough to enable us to resist and repel them, had we but as firm a belief of the presence and inspection of God, and as great a reverence and dread of him, Why should not these have the same influence and effect upon us? Let us then avoid the hypocrisie of desiring to be thought better than we are, by endeavouring to our utmost to be as good as we would be thought to be, and if possible, better. So shall we satisfie our selves that we seek the praise of God, more than the praise of men.

But to return from whence we digressed, though * *shame and everlasting contempt* shall at

* Daniel 12. 2.

at the general Reſurrection be the portion of them who perſiſt and die in their ſins; yet a ſerious and unfeigned Repentance, atteſted by a holy Converſation for the future, is an effectual means to deliver us from this ſhame, whatever our forepaſt ſins have been. For they ſhall not be produced againſt us, they ſhall not be objected to us at that day; they ſhall be buried in eternal ſilence and oblivion, and be as tho they had not been. And this Opinion I hold 1. More agreeable to the Scripture, which in this matter makes uſe of the Terms of hiding, and covering, and blotting out, *Pſalm* 32. 1. *Bleſſed is the man whoſe trangreſſion is forgiven, and whoſe ſin is covered.* Eſay 43. 25. *I even I am he that blotteth out thy tranſgreſſions, and will not remember thy ſins.* So *Pſalm* 51. 9. *Hide thy face from my ſins, and blot out all mine iniquities.* Jerem. 48. 34. *I will forgive their iniquity, and remember their ſin no more.* Ezek. 28. 22. *All his tranſgreſſions that he hath committed they ſhall not be mentioned unto him.* Mich. 7. 19. *Thou wilt caſt all their ſins into the depths of the Sea.* And as it is more conſonant to the Scripture, ſo is it 2. More grateful and conſolatory to the Penitents. For the mere mentioning and reciting of their ſins before ſuch an Aſſembly

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must needs refreſh their ſhame and ſorrow, and ſo diminiſh their happineſs and joy. To which I might add, that it is written that our Saviour at the laſt judgment in pronouncing the Sentence ſhall enumerate the good works of the Godly to their praiſe; but not a word ſaid of producing their ſins. I ſay I hold this Opinion more probable upon theſe accounts, than theirs who affirm they ſhall then be publiſhed, for the magnifying and advancing, the declaring and illuſtrating the Mercy and Grace of God in pardoning ſo great and heinous Offences.

It concerns us much to live in all holy Converſation in this World, as we deſire to avoid that pain and miſery, which we ſhall otherwiſe moſt certainly be adjudged to at that day: that *indignation and wrath, tribulation and anguiſh*, which God ſhall render to them *that do not obey the truth, but obey unrighteouſneſs*: Rom. 2. 8. That *worm that dieth not*, and that *fire that is not quenched*, Mark 9. 44. and 46. and 48. that *outer darkneſs, where is weeping and wailing and gnaſhing of teeth*, Matth. 8. 12. and 22. 13. and 25. 30. That *furnace of fire*, Matth. 13. 42. 50. That *lake of fire and brimſtone*, Revel. 20. 10. or of *fire burning with brimſtone*, Revel. 19. 20. Which places, tho they be not literally to be expounded, yet do they import

import at leaſt a very ſad and deplorable eſtate, a high degree of torment and anguiſh: and all this eternal and without intermiſſion night and day. *Theſe ſhall go into everlaſting puniſhment*, Mat. 25. 46. The State of the Damned is ſuppoſed to be a ſtate of abſolute and complete Miſery, made up of the loſs of the greateſt good and a conſtant, freſh and lively apprehenſion of it; which Divines call *Pœna Damni*. And 2. Exceſs of bodily pain and ſufferings, and ſad diſtreſs of trouble and mind occaſioned by all manner of frighting Apprehenſions, and vexatious Perturbations and Reflections, which they call *Pœna Senſus*; and this without any intermiſſion or or hope of deliverance eternally. *Jude* 7. it is called the *vengeance of eternal fire*. Revel. 14. 11. *The ſmoke of their torment* is ſaid *to aſcend up for ever and ever*. And *Revel.* 20. 10. it is ſaid of the Beaſt and falſe Prophet, that *they ſhall be tormented night and day for ever and ever*. If this be ſo, is't not our greateſt Wiſdom to uſe our utmoſt diligence and endeavour to avoid ſo deplorable a condition, and to ſecure our ſelves an intereſt in a future eſtate of everlaſting Bliſs and Happineſs when this Life ſhall be ended?

But here the *Epicureans* and ſenſual perſons will be ready to object and argue,

Here

Here are pleaſures and delights in this World, which are very inviting and taking, and do highly gratifie my ſenſes and appetites. I hear likewiſe of future rewards and puniſhments for thoſe that deny or fulfil their carnal luſts and deſires. Theſe ſenſual pleaſures I ſee, and taſte, and feel, and am ſure of, the other I do but only hear of, and therefore they do not, they cannot ſo ſtrongly affect me: Were Heaven and the happineſs thereof ſet before my eyes, and did I ſee it as plainly and clearly as I do theſe things below, then indeed I ſhould not need many motives to provoke me to endeavour the obtaining of it. But alas, that is far above out of our ſight, the joys of Heaven are by the Apoſtle termed things not ſeen. Again, theſe outward and temporal enjoyments are preſent and eaſily obtainable; the other at a great diſtance, future, and beſides very hard to come by; and I love my eaſe, *ut eſt ingenium hominum à labore proclive ad libidinem.* Should I deny my ſelf good in this life, and then perchance ceaſe to be, and ſo have no reward for my pains; nay, on the contrary expoſe my ſelf to the hazard of many afflictions and ſufferings, which are the portion of the godly in this life, how unneceſſarily ſhall I make my ſelf miſerable? Miſerable I ſay, becauſe by the Apoſtles

own

own confeſſion Chriſtians, *if in this life only they had hope, would be of all men the moſt miſerable*, 1 Cor, 15. 19. Had I not better make ſure of what is before me? Why have I theſe appetites within me, and ſuch objects about me, the one being ſo ſuitable to the other, is it not more natural and reaſonable to fulfil, than deny them? Surely it cannot be wiſdom to loſe a certain good for an uncertain hope; and for an ungrounded fear of Hell hereafter, to undergo a Purgatory here.

To this argumentation upon the falſe foundation of the uncertainty of a future eſtate of endleſs happineſs or miſery, accordingly as we have behaved our ſelves in this life, I anſwer,

That for the futurity of ſuch an eſtate, we have the beſt Authority in the World, to wit, the holy Scriptures and univerſal Tradition.

1. The Holy Scriptures, whoſe Authority to be more than humane, hath been by many ſo clearly and convincingly demonſtrated, that I ſhall take it for granted, and not waſte time to prove it. The Teſtimonies herein contained concerning eternal happineſs and miſery are ſo clear and full, that it ſeems to me impoſſible without manifeſt diſtortion to elude or evade the force of them. Some we have

have already recited, and might produce many more, Isa. 33. 14. *Who among us shall dwell with the devouring fire? Who among us shall dwell with everlasting burnings?* Dan. 12. 2. *And many of them that sleep in the dust of the earth shall awake, some to everlasting life, and some to shame and everlasting contempt.* 2 Thess. 1. 9. *Who shall be punished with everlasting destruction from the presence of the Lord,* &c. speaking of them who know not God, and obey not the Gospel of our Lord Jesus Christ. Isa. 66. 24. *For their worm shall not dye, neither shall their fire be quenched.*

What more common Notion among the *Grecians* and *Romans*, than of *Elisium* and *Tartarus*, the one to reward good men, the other to punish wicked? which, as appears by what we have quoted out of *Lucretius*, were esteemed to be eternal states.

The *Origenists* and others, that cannot be reconciled to the Catholick Doctrine of the eternity of the punishments of the Damned, make the word αἰὼν, from which the Latin *ævum* is derived, to signifie sometimes a determinate time, as might easily be proved by many examples, and so εἰς αἰῶνα or αἰῶνας, which we translate *for ever*, signifies when applied to this matter, a long indeed, but

yet a finite time; and εἰς τὺς αἰῶνας τῶν αἰώνων, which we render *for ever and ever*, may likewiſe ſignifie not an eternal duration, but a time to which ſome term may be ſet by God, though to us unknown. In the ſame ſenſe they accept the Adjective αἰώνιος for a long, but finite time. But I am of S. *Auguſtine*'s opinion, that αἰώνιος doth in the New Teſtament ſignifie the ſame with *æternus* in Latin, and is appropriated to things that have no end: and that εἰς τὺς αἰῶνας τῶν αἰώνων, *for ever and ever*, doth in like manner always denote eternal or endleſs duration. That the word αἰώνιος when applied to the ſtate of the Damned, doth ſignifie *eternal*, S. *Auguſtine* well demonſtrates from the *Antitheſis* in that place of Matth. 25. 46. *And theſe ſhall go away into everlaſting puniſhment, but the righteous into life eternal.* Where it is in the ſame ſenſe attributed to that life which is the reward of the righteous, and that fire which is the puniſhment of the Damned; there being no reaſon to believe that the ſame word in the ſame Verſe, when applied to oppoſites, ſhould be taken in a different ſenſe. But by the conſent of all Chriſtians it is granted, that the life of the bleſſed ſhall be eternal, therefore ſo muſt the puniſhment of the Damned be ſoo.

This

This acception of the word αἰώνιος for *eternal* or *endleſs*, when it refers to the ſtate of thoſe miſerable perſons, receives a further and ſtrong confirmation from the

Second Particular we propoſed, that is, *Univerſal Tradition*: It being a received Opinion among the Heathen, which muſt needs deſcend down to them by Tradition from the Ancients, that eternal puniſhments awaited the wicked after Death. Of this the *Epicurean* Poet *Lucretius* is a ſufficient and unexceptionable Witneſs, for he living before our Saviours time, could not derive it from any other ſource. He makes the fear of theſe puniſhments to be the cauſe of all the miſeries of humane life, and the foundation of all Religion,

Æternas quoniam pœnas in morte timendum.

And becauſe it may be objected, that *Æternas* may ſignifie only of long continuance, to put the matter out of all doubt, in another place he ſaith,

——Nam ſi nullum finem eſſe putarent,
Ærumnarum homines, nulla ratione valerent
Relligionibus atque minis obſiſtere vatum.

——But if it once appear
That after Death there's neither hope nor fear,
Then Men might freely triumph, then diſdain
The Poet's Tales, and ſcorn their fancy'd pain.
But now we muſt ſubmit, ſince pains we fear
Eternal after Death, we know not where.

And that this Opinion and Belief generally prevailed among the people before *Epicurus* his time, the ſame *Lucretius* teſtifies in the beginning of his firſt Book,

Humana ante oculos fœdè cum vita jaceret
In terris oppreſſa gravi ſub Relligione, &c.
Primùm Graius homo, &c.

Long time men lay oppreſt with ſlaviſh fear,
Religion's Tyranny did domineer,
Which being plac'd in Heaven, look'd proudly down,
And frighted abject Spirits at her frown.
At laſt a Mighty one of *Greece* began
T'aſſert the Natural Liberty of Man,

By

By senseless terrors and vain fancy led
To Slavery, streight the conquer'd Fantoms fled.

for he makes (as we saw before) the fear of eternal pain and misery, to be the foundation of all Religion.

1. Now because these Objectors do represent Religion to themselves and others as a melancholick and disconsolate thing: and think and say, that those that enter into this state must bid adieu to all the pleasures of sence, and taste no sweetness in any worldly object. I shall endeavour to remove this prejudice. I say therefore, That our gracious God doth not envy us any real good that the Creatures can afford us, and therefore hath not denied us a moderate use and fruition of any of them. And seeing he hath annexed pleasure to those actions that are necessary for the support of life, and continuation of kind, as a bait to invite us to the performance of them, it seems to me highly absurd and contradictious to affirm, that he hath forbidden us to partake or taste those enjoyments which himself had appointed as effectual means for the security of those great ends; and which are so necessary consequents of those actions, that we cannot but partake

them. Where the Appetite is eager, God hath indulged, I might ſay commanded, a moderate and regular ſatisfaction. And we know, nay, the blindneſs of Atheiſm cannot deny, that the greateſt pleaſure reſults from a moderate and well circumſtantiated uſe of pleaſures. *Voluptates commendat rarior uſus:* Now a religious man enjoys all the pleaſures of theſe worldly and ſenſible goods, without any of the pain, which is annexed to the exceſſive and irregular uſe, or indeed abuſe of them: and beſides, his pleaſure is enhanſed, in that he beholds and receives them as bleſſings of God, and tokens of his favour and affection; and is without all fear of a future ſad reckoning for his participation of them. Howbeit a denial of our ſelves for Gods ſake and cauſe in any thing which we might otherwiſe lawfully enjoy, though it be not commanded, yet is accepted, and ſhall be rewarded by him.

Others there are who grant, That theſe words grammatically ſignifie as we contend, and that eternal puniſhments are indeed threatned to the wicked; but ſay they, theſe threatnings are intended only, as *terriculamenta*, or Bug-bears to Children, to terrifie and keep people in awe, and to preſerve the World in ſome tolerable condition of

quietneſs,

quietneſs. And *Origen* himſelf, though he be of opinion, that theſe threatnings ſignifie only temporary pains; yet he ſaith, that ſuch myſteries are to be ſealed up and concealed from the vulgar, leſt wicked men ſhould ruſh into ſin with all fury and licentiouſneſs, if this bridle were taken off, who by the opinion and fear of eternal and endleſs puniſhments can ſcarce be deterred and reſtrained from it.

To this I anſwer, 1. That it ſeems to me indecorous and unſuitable to the Perſon and Majeſty of God, to make uſe of ſuch ſorry and weak means to bring about his ends, as grave men can hardly condeſcend to. 2. I do not ſee how it can conſiſt with his Veracity, in plain terms, abſolutely to threaten and affirm what he never intends to do.

Indeed it is queſtionable, Whether it be allowable in man: it being at beſt but an officious Lye: for it is a ſpeaking what we do not think, and that with an intention to deceive.

Secondly, I proceed now to a ſecond Objection againſt the eternity of the pains and ſufferings of the Damned, and that is, it's inconſiſtency with the Juſtice of God. What proportion can there be between a tranſient and temporary act, and an eternal puniſhment? The moſt rigid Juſtice can exact no

more than a *talio*, to suffer as I have done.

Εἴκε πάθοι τὰ κ' ἔρεξε δίκη δ' ἰθεῖα γένοιτο.

if I have hurt, or grieved, or injured any man, to be punished with the same, or an equivalent suffering: if I have taken any unreasonable pleasure, to compensate it with an answerable pain. Indeed the enormities of my life cannot well deserve so much, if it be considered, that I have been strongly instigated and inclined, and as it were fatally driven upon all the evils which I have committed, by those affections and appetites, which I made not for my self, but found in my self; and have been exposed to strong and almost inexpugnable temptations from without; beset with snares, encompassed about with innumerable evils.

To this I answer First, That every sin, injury, or offence is aggravated and enhanced by the dignity or merit of the person against whom it is committed. So Parricide is esteemed a greater Crime than ordinary Murther, and by the Laws of all Nations avenged with a sorer punishment. The like may be said of *læsa Majestas* or Treason. Now God is an infinite person, and Sin being an injury and affront to him, as being a violation of his Law, an infinite punishment must be due to it. This

This answer Dr. *Hammond* in his *Practical Catechism*, *lib.* 5. *sect.* 4. accounts a nicety and unsatisfactory, as also that other common answer, That if we should live infinitely, we would sin infinitely; and therefore gives us another, which in his Discourse of the Reasonableness of Christian Religion, he thus briefly summs up.

2. *That the choice being referred to us to take of the two which we best like, eternal Death set before on the one hand, to make eternal life the more infinitely reasonable for us to chuse on the other hand, and the eternal Hell (whensoever we fall into it) being perfectly our own* Act, *neither forced on us by any absolute* Decree *of God, nor irresistible temptation of the Devil or our own flesh; but as truly our wish and choice and mad purchase, nay, much more truly and properly, than* eternal Heaven *is (when our obedience is first wrought by Gods grace, and yet after that so abundantly rewarded by the* Doner) *it is certain, if there be any thing irrational, it is in us unkind and perverse creatures (so obstinate to chuse what God so passionately warns us to take heed of; so wilfully to dye, when God swears he wills not our death) and not in him, who hath done all that is imaginable to be done to reasonable creatures (here in their way or course) to the rescuing or saving of us.*

But

But to this may be replied, If the thing it ſelf be unjuſt, how can our chuſing of it make it juſt? How can it be juſt to annex ſuch a penalty as eternal Hell to a ſhort and tranſient offence? Suppoſe a Prince ſhould make a Law, that whoſoever did not riſe up and bow himſelf before an old man, ſhould be put to Death with torments; and one of his Subjects knowingly ſhould tranſgreſs this Law upon ſome great temptation; would it not be accounted Cruelty in the Prince to execute this Law upon him? Laws may be unjuſt upon account of diſproportionate penalties. Neither doth our choice much help the matter, for that is but an effect of our error or folly, or, if you will, madneſs, which doth as little deſerve eternal death as the ſin committed doth.

If any man be diſſatisfied with the precedent anſwers, all that I have to add further, is, that before this ſentence adjudging to eternal death be pronounced againſt him, and executed upon him, there ſhall be ſuch a revelation made, as ſhall convince and ſatisfie him of the righteouſneſs thereof. And this the Apoſtle ſeems to intimate *Rom.* 2. 5. when he calls the great day of Doom, the day of the Revelation of the righteous judgment of God. Then ſhall be made appear

what

what now to our dimſighted reaſon is not penetrable; How the Juſtice of God can conſiſt with the eternal damnation of the wicked.

As for mans being as it were fatally determined to evil by the ſtrength of temptation, and the violence of unruly and headſtrong paſſions and appetites: I anſwer, That there are motives and conſiderations ſufficient to enable a man to reſiſt and repel, to conquer and overcome the moſt alluring and faſcinating temptations, the moſt urging and importunate appetites or affections; ſuch are certain ſhame and diſgrace, and that not long to come, eternal infamy and diſhonour; preſent death, ſtrong fear and dread of approaching death, or ſad and intolerable pains or calamities. Now the Divine threatnings are of the greateſt and moſt formidable evils and miſeries that Humane Nature is capable of ſuffering; and therefore were they but firmly believed and apprehended, they would be of force ſufficient to ſtir up in us ſuch ſtrong paſſions of fear and terror, as would eaſily chaſe away all temptations, and embitter all the baits of ſenſual pleaſure.

3. There remains yet a third Objection againſt an eternal Hell, and that is, that it is inconſiſtent with the Divine Goodneſs. For the

the Unbeliever will ſay, It's contrary to all the Notions and *Ideas* I have of God, to conceive him to be ſo angry and furious a Being. How can it ſtand with Infinite Goodneſs to make a Creature that he fore-knew would be eternally miſerable? We men account it a piece of goodneſs to pardon offences: And all puniſhments are intended either for the reformation and amendment of the Offender, or if he be unreclaimable to prevent the miſchief which he might otherwiſe do, or for an example to others to deter them from the like enormities: but I do not ſee for what ſuch end any man can be eternally tormented. So that of ſuch inflictions one may rationally demand, *cui bono?* What good comes of them? How then can they come from God, who by all mens confeſſion is infinitely Good?

To which I anſwer: Firſt, That God is juſt as well as good. You will ſay, what is Juſtice? It is an equal weighing of Actions, and rendring to every one his Right or Due. A ſetting ſtreight again what was perverted by the ſins and extravagancies of Men. Now that the breaking of order and equality in the world, this uſurping and encroaching upon others Rights is a great Evil and ought to be rectified, ſome may take an Argument from

from the ſtrong inclination and deſire to revenge Injuries, that is implanted in the nature of Man, and of all Creatures. You'll ſay, all deſire of revenge is abſolutely ſinful and unlawful. I anſwer, I am no patron of Revenge. I know the very Heathen by the light of nature condemned it.

——*Infirmi eſt animi exiguique voluptas*
Ultio——

Revenge is the pleaſure of a weak and poor ſpirit. Yet let us hear what they have to ſay. 1. It is hard to affirm, that any innate appetite or deſire is in it ſelf ſimply and abſolutely, and in all Circumſtances whatſoever unlawful, for this ſeems to reflect upon the Author of Nature.

To which may be anſwered, that a well circumſtantiated deſire of revenge may not be in it ſelf unlawful, yet for the evil Conſequents of it, it may be, and is prohibited by a poſitive Law. 2. Divine perſons have prayed to God to avenge them, as *David* and the Prophets. And S. *Paul* himſelf, 2 *Tim.* 4.14. prays God to *reward Alexander the Copperſmith according to his works.* To which may be anſwered, that thoſe Expreſſions are rather Predictions of what ſhould befal their Enemies

Enemies, than desires that they might. Again, whereas it is said *Revel.* 6. 9, 10. *That the Souls of them under the altar that were slain for the word of God and the testimony which they held, cryed with a loud voice, saying, How long, O Lord holy and true, dost thou not judge and avenge our Blood on them that dwell on the earth:* Doctor *Hammond* saith, it signifies no more, than that their Blood cries to God for Vengeance, as *Abel's* is said to do. The Nature of Forgiveness seems to imply the Lawfulness of some desire of Revenge. For what is Forgiveness but a parting with, and a renouncing the Right I have to be avenged, and therefore before I forgive I do retain at least some will to be revenged. And I am not obliged by our Saviour to forgive absolutely, but upon condition of Repentance. *Luke* 17. 3, 4. *If thy brother sin against thee rebuke him, and if he repent forgive him*, &c. And in the Lord's Prayer one Petition is, *Forgive us our trespasses as we forgive them that trespass against us.* But God forgives not without Repentance. To which may be answered, That before Repentance, I may retain a will of punishing an Offender for his own Good and Reformation, but with no respect of avenging what is past. And if his Repentance

tance prevents his punishment, then I am to forgive him, that is, cease to desire his punishment. But all allow Vengeance to be just in God, whose Actions are not to be scanned by our Measures.

2. If it be just with God to propose to us such a choice as Heaven upon condition of our Obedience to his Law, or Hell in case of Disobedience; as we see some wise Men make no scruple to grant; then it cannot be injustice in him to inflict the punishments of Hell upon them that make it their choice. Nay I cannot see how it can consist with his Veracity not to do it; why then should any Argument from his Goodness move us to distrust his Veracity? To which I shall add, That the very being of Sin and Misery in the World is as great an Argument against the Goodness of God, as the eternal punishment of it: Sith we must needs grant, that God Almighty Blessed for ever, could, if he had pleased, have prevented it. If any Man shall say, This was not possible without changing the very Nature of Man, and taking away the Liberty of his Will. To him I reply, How then can he confirm the Blessed, reserving their Liberty? Or must we say with *Origen*, That they are in a mutable state too and that Heaven will

have

have an end as well as Hell? If any Man remain ſtill unſatisfied with what hath been ſaid, I muſt refer him for full ſatisfaction to the Revelation of the righteous Judgment of God at that great day, of which mention hath been already made.

I am as unwilling as any Man to limit the Mercies of God: but yet I muſt refer it to him, whether he will be more favourable than he hath threatened or no, whether he will remit ſomething of the Severity of his Comminations. I am alſo willing to reſtrain and confine the ſenſe of theſe words αἰῶνες, and αἰῶνες αἰώνων as far as the Context will permit. But let our Opinions and Hopes of the Mercies of God and a temporary Hell be what they will; a temporary Hell, I ſay, or rather a *Purgatory* inſtead of Hell: For the word Hell, according to the uſual acception of it, includes Eternity. I ſhall propoſe two things to be conſidered.

1. That *Origen* the firſt Broacher of this Opinion of the Determination of the Puniſhments of the Damned, doth acknowledge that the contrary Doctrine is very uſeful to reſtrain the common People from Sin; and that this is to be held as a great Secret, and ſtudiouſly concealed from them. Now if it be of ſuch eminent uſe to them, why may

may it not also be to the Learned and Noble; who, I fear me, may want such a Bridle as well as they?

2. Since God hath threatned eternal punishments, whether he intends to execute them upon us or no, it is clear, I think, he would have them be believed by us, else they cannot have that end and effect he designed them to; and therefore it must be unbelief and presumption in us to deny or distrust them, tho upon supposition, that they are irreconcileable with his Goodness; with which yet perhaps they may accord well enough, tho we cannot at present discern it. All Divine Revelations are to be believed and accepted by us, as well Threatnings as Promises; and if we may distrust the Veracity of God in them, I know not but we may as well do it in these: if we deny the Eternity of the Torments of Hell, I do not see but that we may upon as good grounds with *Origen* deny the Eternity of the Joys of Heaven.

Let not then the presumption of a temporary Hell encourage thee to go on in sin: for, I fear, such a Persuasion may have an ill influence on the Manners of Men. Eternity is the very sting of Hell: take that out, and the Sinner will think it tractable enough.

The very thought of an eternal Hell intervening (and it will often intrude it ſelf) ſtrikes a cold damp to his very Heart in the midſt of his Jollities, and will much qualifie and allay all his Pleaſures and Enjoyments. Rid him of this fear, and he will be apt to deſpiſe Hell and all its Torments, be they never ſo grievous or laſting. Take off this Bridle, and, as we hinted before, he will ruſh into Sin *as a Horſe ruſheth into the battel.* He will be ready thereupon thus to argue with himſelf, What need I take ſo much pains to ſtrive againſt Sin? What need I ſwim againſt the Stream, and reſiſt the Tide and Eddy of my Paſſions, my natural Appetites and Inclinations, and the Solicitations of Company? What need I maintain ſuch a conſtant Watch and Ward againſt my ſpiritual Enemies, the Devil, the World, and the Fleſh? If I fall into Hell at laſt, that is no eternal State, it laſteth but for a time, and will come to an end. I'll venture it: I hope I ſhall make a ſhift to rub through well enough. Let me ask thee, But how if thou ſhouldeſt find thy ſelf miſtaken? If the Event fruſtrate thy Hopes, and fall out contrary to thy Expectation? What a ſad caſe wilt thou be in then? How will the unexpectedneſs thereof double thy Miſery?

Improviſa.

Improviſa graviùs feriunt. How wilt thou be ſtrucken as it were with a Thunderbolt, when the Almighty Judge ſhall fulminate againſt thee a dreadful indeed, but by thee formerly undreaded Sentence, adjudging thee to endleſs Puniſhments? How wilt thou damn thine own Credulity, who by a groundleſs Belief of a temporary Hell, haſt precipitated thy ſelf into an eternal, which otherwiſe thou mighteſt poſſibly have avoided?

Well, but ſuppoſe there be ſome ſhadow of hope of the determination of the puniſhments of the Damned: It is by all acknowledged to be a great piece of folly to leave matters of the higheſt moment, and which moſt nearly concern us, at uncertainties: and a point of Wiſdom, to ſecure the main chance, and to be provided againſt the worſt that can come. An eternal Heaven or ſtate of compleat happineſs is the main chance, and is not to come into any competition, or ſo much as to be put into the ballance againſt a few ſhort, tranſient, ſordid, loathed, and for the moſt part upon their own account repented pleaſures: To ſecure to our ſelves an intereſt in ſuch a ſtate is our greateſt wiſdom. And as for being provided againſt the worſt that may or can come,

What can be worſe than an eternal Hell? which, there is I do not ſay a poſſibility, but the greateſt probability imaginable, that it will be our portion; if we perſiſt in impenitency, and dye in our ſins. But ſuppoſe the beſt ſhould happen that we can hope or conceive, that Hell ſhould laſt only εἰς αἰῶνας αἰώνων, for Ages of Ages, and at laſt determine: do we think this a ſmall matter? If we do, it is for want of conſideration and experience of acute pains. Should any of us be under the ſenſe and ſuffering of a raging Paroxyſm of the Stone, or Gout, or Gollick, I doubt not but rather than endure it for ten thouſand years he would willingly part with all his expectation of a bleſſed eſtate after that term were expired, yea, and his being to boot. But what are any of theſe pains to the torments and perpeſſions of Hell? or the duration of ten thouſand years to thoſe Ages of Ages? If thou makeſt light of all this, and nothing can reſtrain thee from ſin, but the eternity of puniſhment, thou art bound to thank God, who hath uſed this only effectual means, threatning an eternal Hell. And it ill becomes thee to complain of his rigour and ſeverity, who wouldeſt have made ſo pernicious an uſe of his lenity and goodneſs. But thou who haſt

entertained

entertained such an Opinion, and abusest it to encourage thy self to go on in thy sins, though others should escape with a temporary punishment, surely thou hast no reason to expect any milder doom, than to be sentenced to an eternal.

Upon a Review of the Precedent Diſcourſe, ſome Things thought fit to be Added and Amended.

Pag. 51. *Lin.* 29. Add,

WHich is made one great Reaſon that ſuch great Numbers (even whole Woods) of ſubterraneous Trees are frequently met with and dug up at vaſt Depths in the *Spaniſh* and *Dutch Netherlands*, as well as in many places of this Iſland of *Great Britan*.

Page 70.

Thoſe Words, (nay this latter [the *Mediterranean*] receives alſo abundance of Water from the great Ocean; running in at the Streights of *Gibraltar*, and therefore by ſubterraneous Paſſages muſt needs diſcharge their Waters into the *Abyſs* of Waters under the Earth, and by its intervention into the

the *Ocean* again) were written without due Consideration, in compliance with the common Opinion, before I had seen Mr. *Halley*'s * *Estimate of the Quantity of Vapour raised out of the Sea by the warmth of the Sun*, &c. which upon second Thoughts I find reason to revoke. For that the *Mediterranean* Sea doth not communicate with the *Ocean* by any subterraneous Passages, nor thereby impart any Water to it, or receive any from it, may be demonstrated, from that the *Superficies* of it is lower than the *Superficies* of the Ocean, as appears from the Waters running in at the Streights of *Gibraltar*; for if there were any such Communications, the Water keeping its Level, the *Mediterranean*, being the lowest, must by those Passages receive Waters from the *Ocean*; and not the *Ocean*, which is (as we have proved) the highest, from the *Mediterranean*. Hence it necessarily follows, that the *Mediterranean* spends more in Vapour than it receives from the Rivers; which is Mr. *Halley*'s Conclusion; tho in some of his Premises or *Hypotheses* he is, I think, mistaken, as 1. In that he enumerates the *Tyber* amongst his nine great Rivers, each of which may yield ten times as much Water as the *Thames*; whereas I question whether that yields once so much; and whereas

* *Philosophic. Transact. Numb.* 89.

he paſſes by all the reſt of the Rivers as ſmaller than it; there are two that I have ſeen in *Italy* it ſelf, whereof the one, *viz.* the *Arnus*, on which *Florence* and *Piſa* ſtand, ſeemed to me not inferiour in bigneſs to the *Tiber*; and the other, *viz.* the *Atheſis* on which *Verona* ſtands, I could not gueſs to be leſs than twice as big. 2. In that he thinks himſelf too liberal in allowing theſe nine Rivers to carry down each of them ten times ſo much Water as the *Thames* doth. Whereas one of thoſe nine, and that none of the biggeſt neither, *viz.* the River *Po*, if *Ricciolus* his *Hypotheſes* and Calculations be good, affords more Water in an hour, than Mr. *Halley* ſuppoſes the *Thames* to do in a day; the hourly Effuſions of the *Po* being rated at eighteen millions of Cubical Paces by *Ricciolus*; whereas the daily ones of the *Thames* are computed to be no more than twenty five millions three hundred forty four thouſand Cubical Yards of Water by Mr. *Halley*: but a Geometrical Pace contains five Feet, *i.e.* $1\frac{2}{3}$ of a Yard. Now if the *Po* pours ſo much Water hourly into the Sea, what then muſt the *Danow* and the *Nile* do? each of which cannot (I gueſs) be leſs than treble of the *Po*. *Tanais*, *Boryſthenes* and *Rhodanus* may equal, if not exceed it. Howbeit I cannot approve *Ricciolus*

cioluſ his *Hypotheſes*, judging them to be too exceſſive, but do believe that as to the whole Mr. *Halley* comes nearer the truth: Sure enough it is, that in the *Mediterranean*, the Receipts from the Rivers fall ſhort of the Expence in Vapour: tho in part of it, that is the *Euxine*, the Receipts exceed, as appears from that there is a conſtant Current ſets outward from thence through the *Thracian Boſphorus*, and *Helleſpont*.

But tho the *Mediterranean* doth indeed evaporate more than it receives from the Rivers, yet I believe, the Caſe is not the ſame with the *Caſpian* Sea; the *Superficies* whereof ſeems to me not to bear any greater proportion to the Waters of the Rivers that run into it, than that of the *Euxine* doth to it; which we have obſerved not to ſpend the whole Receipt in Vapour.

You'll ſay, Why then do not great Floods raiſe the Seas? I anſwer, As to the *Caſpian*, if it communicates with the Ocean, whether the Rivers bring down more or leſs, its all one; if more, then the Water keeping its Level, the *Caſpian* raiſeth the *Ocean*; if leſs, then the *Ocean* communicates to the *Caſpian*, and raiſes that. But as to the *Mediterranean*, we may ſay, that when it receives more on the one ſide, it receives leſs on the other, the Floods and Ebbs of the *Nilus* and

the

the other Rivers counterbalancing one another; Beſides by reaſon of the Snows lying upon the Mountains all Winter, the greateſt Floods of thoſe great Rivers in *Europe* do not happen when the *Mediterranean* evaporates leaſt in the Winter-time; but in the Spring.

You'll demand further, if the *Mediterranean* evaporates ſo much what becomes of all this Vapour? I anſwer, it is caſt off upon the Mountains, and on their ſides and tops is condenſed into Water; and ſo returned again by the Rivers unto the Sea.

If you proceed to ask what becomes of the Surpluſage of the Water, which the *Mediterranean* receives from the *Ocean*, and ſpends in vapour; I anſwer, It ſeems to me, that it muſt be caſt further off over the tops of the Mountains, and ſupply in part Rain to theſe Northern Countries: for we know that the South-Wind brings Rain, with us and all *Europe* over.

As to the great Ocean, I do not believe that it evaporates ſo much as the *Mediterranean*; both 1. Becauſe the whole *Mediterranean*, excepting the *Euxine*, lies in a hot Climate, and a great part of it as it were in a Valley, Ridges of high Mountains, *Atlas* on one ſide, and the *Alps* and *Apennine*, &c. on the other running along it. And

2. Be-

2. Because the Surface of the whole *Ocean* bears a greater proportion to the Waters it receives from the Rivers of at least this Continent, than that of the *Mediterranean* doth to its. And therefore I think also that Mr. *Halley* exceeds in his Estimate of the Heat of the Superficies of the Sea Water. I cannot perswade my self, that were it all commixt, I mean the hotter part with the cooler all the Surface over to such a thickness, it would equal the heat of our Air in the hottest time of Summer. But I leave that to further Trial and Enquiry.

Here give me leave to suggest, that we are not to think, that all the Vapours that supply our Rains and Dews proceed from the Sea; no a great part of them, *viz.* all that, when condensed, waters the Earth, and serves for the Nutrition of Plants and Animals, (if not the same individual Water at least so much) was exhaled out of the Earth before, and returned again in Showers and Dews upon it. So that we receive no more from the Sea, than what the Rivers carry back, and pour into it again. But supposing Mr. *Halley*'s *Hypotheses* to be good, and that the *Ocean* doth evaporate, and cast off to the dry Land $\frac{1}{10}$ of an inch thickness daily, and this suffices for the Supply of all the Rivers; how intolerably extravagant must their *Hypotheses*

ſes be, who ſuppoſe the Rivers of all the World together to yield half an Ocean of Water daily? Though I muſt confeſs my ſelf to be at a loſs as to thoſe vaſt Rivers of *America* of ninety Miles broad; for if they ſhould run with any thing a ſwift Current, it is indeed ineſtimable what a quantity of Water they may pour forth. All therefore that I have to ſay of them is, that we want a true Hiſtory and Account of their *Phænomena* from their Fountains to their Out-lets.

Pag. 72. *lin.* 29. and of Gravity;

I add alſo of Magnitude: which is exceedingly convenient, as well for the facility as the equability of the Earths diurnal motion. This *Hypotheſis* of the Continents being diſperſed equally on all ſides of the Globe makes theſe Centers concur in one Point, whatever cauſe we aſſign of the raiſing up of the Dry Land at the firſt. Whereas if we ſhould ſuppoſe the Dry Land to have been raiſed by Earthquakes only on one ſide of the Globe, and to have caſt off the Water to the other, and alſo that the Water could find no way into the Caverns that were left within; then the watery ſide muſt needs preponderate the land-ſide, and bring the Center of Gravity nearer to its Superficies; and ſo raiſe the land-ſide ſtill a great deal higher, and make a conſiderable diſtance

ſtance between the Centers of Magnitude and of Gravity. In our *Hypotheſis* of the equal diſperſion of the Continents and Iſlands no ſuch thing would happen: but each Continent, taking it with all its internal Caverns, whether lighter or heavier than its bulk in Water, that is, Whether the Water did make its way into the Caverns thereof, or did not; (for in the firſt Caſe it would be heavier, in the ſecond lighter) would have its counterpoiſe on the oppoſite ſide; ſo that the Centers would ſtill concur. The Caſe would be the ſame if the Dry Land were diſcovered, and the Mountains raiſed by the immediate application of the Divine Power.

Pag. 94. after *lin.* 15. add,

Since the receipt of this Letter, an Experiment (give me leave ſo to call it) occurred to me, which much confirmed me in the belief and perſuaſion of the truth of thoſe Hiſtories and Relations which Writers and Travellers have delivered to us concerning Dropping Trees in *Ferro*, *S. Thome*, *Guiny*, *&c.* of which before I was ſomewhat diffident; and likewiſe in the approbation of the *Hypotheſis* of my Learned Friend Dr. *Tancred Robinſon* for the ſolving of that *Phænomenon*. The ſame alſo induces me to believe, that Vapours may have a greater intereſt in the production of Springs even in temperate and cold Regions,

Regions, than I had before thought. The Experiment or Obſervation is this.

About the beginning of *December* 1691. there happened to be a Miſt, and that no very thick one, which continued all day: the Vapour whereof, notwithſtanding the Trees were wholly diveſted of Leaves, condenſed ſo faſt upon their naked Branches and Twigs, that they dropped all day at ſuch a rate, that I believe the Water deſtilling from a large Tree in twenty four hours, had it been all received and reſerved in a Veſſel, might have amounted to a Hoggs-head. What then may we rationally conjecture, would have dropped from ſuch a Tree; had it been covered with Leaves of a denſe Texture, and ſmooth *Superficies*, apt to collect the Particles of the Vapour, and unite them into Drops?

It is clear by this effect, that Trees do deſtil Water a pace when Clouds or Miſts hang about them; which they are reported by *Benzo* conſtantly to do about the Fountain tree in *Ferro*; except when the Sun ſhines hot upon it. And others tell us, that that Tree grows upon a Mountain too: So that it is no wonder, that it ſhould drop abundance of Water. What do I ſpeak of that Tree? all the Trees of that kind grow on the ſides of vaſt Mountains, as Dr. *Robin-*

ſon

ſay hath noted. Beſides that in hot Regions Trees may in the night time deſtil Water, though the Air be clear, and there be no Miſt about them, ſeems neceſſarily to follow, from Mr. *Halley*'s Experiment.

Now if there be in Miſts thus much Vapour condenſed upon Trees, doubtleſs alſo there is in proportion as much upon the Surface of the Earth and the Graſs: And conſequently, upon the Tops and Ridges of high Mountains, which are frequently covered with Clouds or Miſts, much more, ſo much as muſt needs have a great intereſt in the production and ſupply of Springs, even in temperate Countries.

But that inviſible Vapours, when the Sky is clear, do at any time condenſe ſo faſt upon the Trees, as to make them drop, I never obſerved in *England* or elſewhere, no not in the Night-ſeaſon; though I do not deny, but upon the *Appennine* and Southern ſide of the *Alps*, and elſewhere in the hotter parts of *Europe* in Summer Nights they may. However conſidering the Penetrancy of ſuch Vapours, that in moiſt Wether they will inſinuate themſelves deeply into the Pores of dry Wood, ſo that Doors will then hardly ſhut, and Chinks and Crannies in Boards and Floors be cloſed up, I know not but that they may likewiſe ſtrike deep into the Ground,

Ground, and together with Miſts contribute to the feeding and maintenance of Springs, in Winter-time, when the Sun exhales but little; it being an Obſervation of the Learned * *Fromondus, Quod hyeme nec nivali, nec imbrifera fontes tamen aquam largiùs quàm æſtate (niſi valdè pluvia ſit) vomant. That in Winters neither ſnowy nor rainy, yet fountains powre forth more Water than in Summer, unleſs it happen to be a very wet ſeaſon.* Yet are their Contributions inconſiderable, if compared with the ſupplies that are afforded by Rains. And one reaſon why in Winter Fountains flow more plentifully may be, becauſe then the Sun defrauds them not, nor exhales any thing out of the Earth, as in Summer time he doth.

* *Meteor. lib. 5. c. 7. Artic. 3.*

Therefore whenever in this Work I have aſſigned Rain to be a ſufficient or only cauſe of Springs and Rivers, I would not be underſtood to exclude, but to comprehend therein Miſts and Vapours; which I grant to have ſome intereſt in the production of them, even in Temperate and Cold Regions; and a very conſiderable one in Hot. Though I cannot be perſuaded, that even there they are the ſole Cauſe of Springs, for that there fall ſuch plentiful and long continuing Rains, both in the *Eaſt* and *Weſt Indies* in the Summer Months: which muſt needs

needs contribute ſomething to their Original.

Pag. 169. *lin.* 19. add,

This end and uſe of Mountains I find aſſigned by Mr. *Halley* in his Diſcourſe concerning the Original of Springs and Rivets, in theſe words: This, if we may allow Final Cauſes, (and why may we not? What needs this heſitancy and dubitation in a thing that is clear?) ſeems to be the Deſign of the Hills, That their Ridges being placed through the midſt of the Continents, might ſerve as it were Alembicks to diſtil freſh Water for the uſe of Man and Beaſt; and their heights to give a deſcent to thoſe Streams, to run gently like ſo many Veins of the Macrocoſm, to be the more beneficial to the Creation. *Philoſ. Tranſ. num.* 192.

Pag. 170. *lin.* 10. add,

To ſumm up all relating to the Diviſion and Diſpoſition of the Water and Earth in brief.

1. I ſay, the Water being the lighter Element doth naturally occupy the upper place, and ſtand above the Earth, and ſo at firſt it did. But now we ſee it doth not ſo; the Earth being contrary to its nature forcibly elevated above it; being (as the *Pſalmiſt* phraſeth it) founded above the Seas, and eſtabliſhed above the Floods: and

this becauſe it was beſt it ſhould be ſo, as I ſhall clearly prove and deduce in particulars in another Diſcourſe.

2. The Dry Land is not elevated only upon one ſide of the Globe; for then had it had high Mountains in the middle of it, with ſuch vaſt empty Cavities within, as muſt be equal to the whole Bulk raiſed up, the Center of Magnitude muſt needs have been conſiderably diſtant from the Center of Gravity: which would have cauſed a very great and inconvenient inequality in the Motion of the parts of the Earth: but the Continents and Iſlands are ſo equally diſperſt all the Globe over as to counterballance one another, ſo that the Centers of Magnitude and Gravity concur in one.

3. The Continents are not of exactly equal and level *Superficies* or Convexity. For then the Parts ſubject to the Courſe of the Sun, called the *Torrid Zone*, would have been, as the Ancients fancied them, unhabitable for Heat and Drought. But there are huge Ridges and extended Chains of lofty Mountains, directed for the moſt part to run Eaſt and Weſt; by which Means they give free Admittance and Paſſage to the Vapours brought in by the Winds from the *Atlantick* and *Pacifick* Oceans; but ſtop and inhibit their Excurſions to the North and South,

South, either condensing them upon their sides into the Water, by a kind of external Destillation; or by streightening and constipating of them compelling them to gather into Drops, and descend down in Rain.

These are great things, and worthy the Care, Direction, and Disposal of the Great and Wise Creator and Governor of all things: And we see they are accordingly excellently ordered and provided by him.

Some Greek *and* Latin *Quotations Engliſhed.*

Pag. 25. *Lin.* 7.

THoſe Words of *Lactantius*, *Ergo quoniam ſex dierum*, &c. ſignifie in *Engliſh*, Therefore becauſe all the Works of God were perfected (or finiſhed) in ſix days, it is neceſſary (or neceſſarily follows) that the World ſhall continue in this State ſix Ages, that is ſix thouſand years. For the great Day of God is terminated in a Circle of ſix thouſand years: as the Prophet intimates, who ſaith, *A thouſand years in thy ſight, O Lord, are but as one day.*

Pag. 26. *lin.* 25.

Θάνατον ὁ τῶν ςοιχείων, &c. He acutely calls the Death of the Elements their change into better.

Pag. 32. *Lin.* 18.

Cùm tempus advenerit, &c. When the time ſhall come, that the World again to be reſtored (or to recover it ſelf) ſhall periſh, theſe things ſhall beat or mall themſelves by their

their own ſtrength, the Stars ſhall run, or fall foul upon one another; and all the matter flaming whatever now ſhines according to its ſettled Order or Diſpoſition ſhall then burn.

Pag. 33. *lin.* 25.

Reſoluto mundo & Diis in unum confuſis. When the World ſhall be diſſolved, and the Gods confounded into one. *Atque omnes pariter Deos perdet Nox aliqua & Chaos.* And in like manner a certain Night and *Chaos* ſhall deſtroy all the Gods.

Pag. 34. *lin.* 10.

Ὡς ἐκπύρωσις, &c. That there ſhall ſometime be a change of the World into the Nature or Subſtance of Fire.

Pag. 36. *lin.* 5.

Καὶ πῶν, Then God not mitigating his anger, but aggravating it, ſhall deſtroy by fire the whole Race of Mankind.

Pag. 5. *lin.* 45.

In plenum, &c. In ſumm, it is obſerved, that the meaſure of all Mankind becomes daily leſs, and that there are few taller than their Parents, the burning heat conſuming the Luxury of the Seeds. *Ibid. Terra malos, &c.* The Earth breeds now Men bad and ſmall.

Pag. 107. *lin.* 20.

Non procul, &c. Not far from the Mountain called *Paterno*, where the *Bononian* Stone is gotten, about an *Italian* Mile diſtant, (the name of the place is ſlipt out of my memory) is a huge hanging Mountain, broken by the violence of the Torrents, cauſed by the confluence of Waters deſcending from the Neighbouring Mountains after frequent Showers, throwing down great heaps of Earth from it. In the upper part of this broken Mountain are ſeen many Beds or Floors of all kind of Sea-ſhells, much Sand interpoſing between Bed and Bed, after the manner of *ſtratum ſuper ſtratum*, or Layer upon Layer, as the Chymiſts phraſe it. The Beds of Sand interceding between theſe Rows of Shells were a yard thick or more. Theſe Shells were all diſtinct or ſeparate one from another, and not ſtuck in any ſtone, or cemented together, ſo that they might be ſingly and ſeparately viewed and handled with ones Hands. The Cauſe whereof was their being lodged in a pure Sand not intermixt with any Mud or Clay, which kept the Shells entire for many Ages. Yet were all theſe Shells, by reaſon of the length of time they had lain there, eaſily reſoluble into a purely white *Calx* or Aſh.

Pag.

Pag. 133. *lin.* 17.

Prodigiosi, &c. Prodigious and lasting Defects of the Sun, such as happened when *Cæsar* the Dictator was slain, and in the War with *Anthony*, when it was continually pale and gloomy for a whole year.

Pag. 185. *lin.* 5.

Ego non audeo tempora dinumerare, &c. I dare not calculate times, neither do I think, that concerning this matter any Prophet hath predicted and defined the Number of Years: What therefore the Lord would not have us to know, let us willingly be ignorant of.

FINIS.

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